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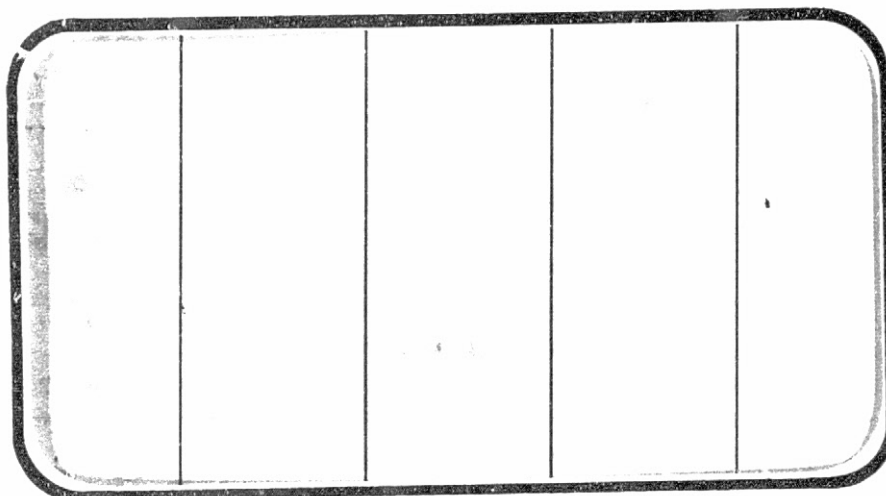
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# NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

NASA CR-

141822



(NASA-CR-141822) HEAT TRANSFER TESTS OF A  
0.006-SCALE THIN SKIN SPACE SHUTTLE MODEL  
(50-0, 41-T) IN THE LANGLEY RESEARCH CENTER  
NITROGEN TUNNEL AT MACH 19 (IH19) (Chrysler  
Corp.) 731 p HC \$18.75

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SPACE SHUTTLE

AEROTHERMODYNAMIC DATA REPORT



JOHNSON SPACE CENTER

HOUSTON, TEXAS

DATA MANAGEMENT services

SPACE DIVISION



CHRYSLER  
CORPORATION



November 1975

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NASA CR-141,822

HEAT TRANSFER TESTS OF AN  $0.006$ -SCALE  
THIN SKIN SPACE SHUTTLE MODEL (50-O, 41-T)  
IN THE LANGLEY RESEARCH CENTER NITROGEN TUNNEL  
AT MACH 19 (IH19)

by

D. G. Walstad  
Rockwell International Space Division

Prepared under NASA Contract No. NAS9-13247

by

Data Management Services  
Chrysler Corporation Space Division  
New Orleans, La. 70189

for

Engineering Analysis Division  
Johnson Space Center  
National Aeronautics and Space Administration  
Houston, Texas

WIND TUNNEL TEST SPECIFICS:

Test Number: LaRC/N2 #28  
NASA Series Number: IH19  
Model Number: 50-0, 41-T  
Test Dates: December 7, 1973 to January 8, 1974  
Occupancy: 40 hours

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HEAT TRANSFER TESTS OF AN 0.006-SCALE  
THIN SKIN SPACE SHUTTLE MODEL (50-O, 41-T)  
IN THE LANGLEY RESEARCH CENTER NITROGEN TUNNEL  
AT MACH 19 (IH19)

By D. G. Walstad, Rockwell International Space Division

ABSTRACT

This report presents data obtained from heat transfer tests on an 0.006-scale Space Shuttle Vehicle in the Langley Research Center Nitrogen Tunnel. The purpose of this test was to obtain ascent heating data at a high hypersonic Mach number. Configurations tested were integrated Orbiter and external tank, Orbiter alone, and external tank alone. All configurations were tested with and without boundary layer transition.

Testing was conducted at a Mach number of 19, a Reynolds number of 0.5 million per foot, and angles of attack of 0,  $\pm 5$ , and  $\pm 10$  degrees. Heat transfer data was obtained from 77 Orbiter and 90 external tank iron-constantan thermocouples.

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## PLOTTED COEFFICIENT SCHEDULE:

- A) H/HREF versus X/L and HI/HU versus X/L
- B) H/HREF versus X/C and HI/HU versus X/C

# NOMENCLATURE

<u>Symbol</u>	<u>SADSAC Symbol</u>	<u>Definition</u>
A		area or integration
b		model skin thickness, ft.
B.P.	B.P.	butt plane, in
c		specific heat of model material, BTU/lbm-°R
C <sub>p</sub>		freestream specific heat at constant pressure, BTU/lbm-°R
g		gravitational acceleration, ft/sec <sup>2</sup>
h	H	heat transfer coefficient, BTU/ft <sup>2</sup> -sec-°R
h <sub>ref</sub>	HREF, HO	stagnation point heat transfer coefficient on scaled one-foot sphere, BTU/ft <sup>2</sup> -sec-°R
H		enthalpy, BTU/lb
H <sub>AW</sub>	HAW	adiabatic wall enthalpy, BTU/lb
H <sub>i</sub>	HI	heat transfer coefficient in interference region, BTU/ft <sup>2</sup> -sec-°R
H <sub>u</sub>	HU	heat transfer coefficient in undisturbed region, BTU/ft <sup>2</sup> -sec-°R
H <sub>t</sub>	HT	stagnation enthalpy, BTU/lb
k		thermal conductivity coefficient, BTU/ft-sec-°R
m		slope of straight line equation
M	MACH	Mach number
P <sub>o</sub>	PO	stagnation pressure, psia
P		static pressure, psia
Pr		Prandtl number

# NOMENCLATURE (Continued)

$\dot{q}$	QDOT	heat flux, BTU/ft <sup>2</sup> -sec
$q_{ot}$		stagnation-point heat transfer rate calculated using Fay and Riddell's equation, BTU/ft <sup>2</sup> -sec
$r_s$		radius of scaled one-ft sphere, in
$r$		adiabatic wall temperature ratio, $T_{aw}/T_o$ (recovery factor)
$R$		gas constant, ft-lb/slug-°R
$Re$		Reynolds number
$RN/L$	RN/L	unit Reynolds number, per foot
$ST$		Stanton number
$t$		time, sec
$T$	T	temperature, °R
$T/C$		thermocouple
$u$		velocity, ft/sec
$W$		density of model material, lbm/ft <sup>3</sup>
$W.L.$	W.L.	waterline, in
$2y/b$	2Y/B	nondimensional spanwise location, fraction of span
$x$		longitudinal distance coordinate, ft
$x/C$	X/C	nondimensional chordwise location, fraction of local chord
$x/\ell$	X/L	nondimensional longitudinal location, fraction of body length
$\alpha$	ALPHA	angle between model centerline and wind vector, degrees
$\beta$	BETA	angle of sideslip, degrees
$\theta$		caloric imperfection effect on static to total temperature ratio



## NOMENCLATURE (Concluded)

$\mu$		viscosity of air, lb-sec/ft
$\phi$	PHI	angular coordinate on model surface, degrees
$\rho$		density of model material, slug/ft
$\tau$		model skin thickness, in
	BLTRIP	boundary layer trips
$\Delta h$	DELTAH	minimum separation distance between Orbiter and external tank, in.
$T_0$	T0	stagnation temperature, °R

### Subscripts

<u>Symbol</u>	<u>Plot Symbol</u>	<u>Definition</u>
aw		adiabatic wall
i		initial conditions
m		measured
o		freestream total condition
PG		perfect gas
o,1,2		constants in specific heat (temperature) equation
s		reference sphere
t		stagnation conditions
TPG		thermally perfect gas
w		model wall conditions
'		primed quantities which indicate conditions behind normal shock
$\infty$		tunnel free-stream conditions

## CONFIGURATIONS INVESTIGATED

The model (Orbiter and external tank) tested was an 0.006-scale representation of the Rockwell International Space Shuttle Vehicle. The Orbiter and external tank are defined by Grumman Drawings SS-H-00701 and SS-H-00335.

The Orbiter was a Grumman built, full span configuration, stainless steel model. A thin-skin stainless steel (17-4PH) insert was located on the underside centerline region, left-hand wing underside, windshield area, and left fuselage side. These inserts were instrumented with 77 iron-constantan thermocouples. There were no provisions for elevon, rudder, or bodyflap deflections.

The external tank (ET) was constructed of thin-skin (nominal skin thickness of 0.040-inch) 15-5 PH stainless steel. This tank was instrumented with 111 iron-constantan thermocouples (only 90 were used). The ET had provisions for being tested alone, or integrated with the Orbiter.

All thermocouples were spot welded to the skin and clamped in bundles within the models.

The following configurations were tested:

<u>Notation</u>	<u>Description</u>
B22	Fuselage (~147B Lines)
C7	Canopy
F5	Bodyflap

CONFIGURATIONS INVESTIGATED (Concluded)

<u>Notation</u>	<u>Description</u>
M <sub>4</sub>	OMS Pods
V <sub>7</sub>	Vertical Tail
W <sub>111</sub>	Wing
T <sub>8</sub>	External Tank

## MODEL INSTRUMENTATION

The Orbiter and external tank were instrumented with a total of 167 iron-constantan thermocouples. All thermocouples were spot welded to thin skin (nominally 0.030-inch) stainless steel inserts. The thermocouple leads were 50 feet long and all leads were fitted with plugs.

Prior to testing, all thermocouples were checked with a heat source to assure proper hook-up, polarity, and response. The exact locations of each thermocouple are presented in Tables IV and V and are illustrated in Figure 2.

## TEST FACILITY DESCRIPTION

The NASA/Langley Research Center 18-inch Hypersonic Nitrogen Tunnel is a blow down facility with a normal operational time of up to two hours for force and moment testing. This long run time is possible because the nitrogen is obtained in liquid form, mechanically pumped to 17,000 psig  $P_T$ , and then vaporized and heated to 2900°F  $T_T$  prior to entry into the nozzle. The test section is of the open jet variety with a water cooled diffuser that exits into a 60-foot diameter vacuum sphere.

Models are sting mounted on an injectable blade strut with externally controllable pitch capability and manually settable yaw freedom. Force testing is done utilizing 5 component water cooled internal strain gauge balances, with injection time kept to a absolute minimum (less than 5 seconds) to alleviate balance drift problems due to aerodynamic heating. Air is also blown on the model to cool it while in the retracted position between injections.

Recent calibrations of the tunnel indicate that the most satisfactory conditions to obtain force data are:

Total pressure = 5000 psi

Total temp = 3360 °R

RN/foot =  $0.68 \times 10^6$

Macn = 19.80

The most recent operational parameters of the contoured nozzle are best obtained from the LaRC Hypersonic Analysis Section (Phone (804) 827-2483).

## TEST FACILITY DESCRIPTION (Concluded)

The tunnel is also equipped with an electron beam flow visualization device which allows color photographs with depth of field to be made of the flow system, allowing interpretation of shock interactions and flow separation phenomena.

## TEST PROCEDURES

Heat transfer data was obtained by measuring the temperature rise over a period of time from a total of 167 iron-constantan thermocouples. The model was injected into the flow stream and held on tunnel centerline for approximately 3 seconds, during which time temperature measurements were taken.

A maximum of 90 thermocouples could be recorded at any one time. Temperature measurements were collected through the Beckman Data Acquisition system. The thermocouple leads were routed through the model support system and connected to a terminal board. Leads that were exposed to free-stream flow conditions were wrapped with asbestos tape.

Thermocouple leads were connected directly to a terminal board in the test section. Thermocouple changes were a manual operation requiring the handling of each individual lead. After each thermocouple change, a response and location check was performed to assure a proper hook up.

Prior to testing, a thermocouple heat response check, through the data system, was performed on all thermocouples. The model was leveled in pitch and roll by means of a leveling block which attached to the top of the Orbiter. When leveling the external tank the inclinometer was applied directly to the external surface. Proper roll relationships between the Orbiter and external tank, was assured by scribe lines located on the stings of each component and on the attaching brackets.

## DATA REDUCTION

The thermocouple heat-transfer data was reduced by the one dimensional thin wall equation

$$\dot{q} = Wcb \frac{dT_w}{dt}, \quad \text{BTu/ft}^2\text{-sec} \quad (1)$$

The theoretical stagnation-point heat-transfer rate calculated using Fay and Riddell's equation:

$$\dot{q}_{ot} = 0.94 (\rho_w \mu_w)^{0.5} (\rho_o \mu_o / \rho_w \mu_w)^{0.4} (H_o - H_w) (du/dx)^{0.5} \quad (2)$$

where

$$\mu = \frac{0.0232 \times 10^{-6} T^{0.5}}{1 + (220/T)}$$

and

$$\frac{du}{dx} = (1/r_s) [2RT(1 - p_\infty/p_o')]^{0.5}$$

The local heat-transfer coefficient for each thermocouple was computed by:

$$h_{local} = \frac{\dot{q}}{rT_o - T_w} \quad (3)$$

at  $r = 1.0, 0.9, 0.85$ .

The ratio of the local heat-transfer coefficient to reference heat-transfer coefficient for each thermocouple was computed using:

$$h_{ref} = \frac{\dot{q}_{ot}}{T_o - T_w} \quad (4)$$



TABLE I.

[illegible]

TABLE II.

[illegible]

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TABLE III. - MODEL DIMENSIONAL DATA

MODEL COMPONENT : BODY - B<sub>22</sub>

GENERAL DESCRIPTION : Fuselage, Configuration 3A per Rockwell  
Lines VL70-000147B.

NOTE: Identical to B<sub>19</sub>, except underside.

MODEL SCALE: 0.006

DRAWING NUMBER : VL70-000147B

DIMENSIONS :

	FULL SCALE	MODEL SCALE
Length - In.	<u>1290.3</u>	<u>7.742</u>
Max Width - In.	<u>267.6</u>	<u>1.606</u>
Max Depth - In.	<u>244.5</u>	<u>1.467</u>
Fineness Ratio	<u>4.84601</u>	<u>4.84601</u>
Area - Ft <sup>2</sup>	<u>                    </u>	<u>                    </u>
Max. Cross-Sectional	<u>386.67</u>	<u>0.0139</u>
Planform	<u>                    </u>	<u>                    </u>
Wetted	<u>                    </u>	<u>                    </u>
Base	<u>                    </u>	<u>                    </u>

TABLE III. - MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT : CANOPY - C<sub>7</sub>

GENERAL DESCRIPTION : Configuration 3 per Rockwell Lines VL70-000139

MODEL SCALE: 0.006

DRAWING NUMBER VL70-000139

DIMENSIONS :	FULL SCALE	MODEL SCALE
Length ( $X_0=433$ to $X_0=670$ ) - In.	<u>F.S. 237.0</u>	<u>1.422</u>
Max Width	<u>                    </u>	<u>                    </u>
Max Depth	<u>                    </u>	<u>                    </u>
Fineness Ratio	<u>                    </u>	<u>                    </u>
Area	<u>                    </u>	<u>                    </u>
Max. Cross-Sectional	<u>                    </u>	<u>                    </u>
Planform	<u>                    </u>	<u>                    </u>
Wetted	<u>                    </u>	<u>                    </u>
Base	<u>                    </u>	<u>                    </u>

TABLE III. - MODEL DIMENSIONAL DATA - Continued.

MODEL COMPONENT : BODY FLAP - F<sub>5</sub>

GENERAL DESCRIPTION : 3 Configuration per Rockwell Lines VL70-000139

MODEL SCALE: 0.006

DRAWING NUMBER VL70-000139

DIMENSIONS :	FULL SCALE	MODEL SCALE
Length - In.	<u>84.70</u>	<u>0.508</u>
Max Width - In.	<u>267.6</u>	<u>1.606</u>
Max Depth	<u>                    </u>	<u>                    </u>
Finessess Ratio	<u>                    </u>	<u>                    </u>
Area - Ft <sup>2</sup>	<u>                    </u>	<u>                    </u>
Max. Cross-Sectional	<u>                    </u>	<u>                    </u>
Planform	<u>142.5</u>	<u>0.005</u>
Wetted	<u>                    </u>	<u>                    </u>
Base	<u>38.0958</u>	<u>0.0137</u>

TABLE III (Cont'd)

MODEL COMPONENT : OMS POD - M<sub>1</sub>GENERAL DESCRIPTION : Configuration 3 per Rockwell Lines VL70-000139NOTE: M<sub>1</sub> identical to M<sub>2</sub>, except intersection to fuselage.MODEL SCALE: 0.006DRAWING NUMBER : VL70-000139

## DIMENSIONS :

	FULL SCALE	MODEL SCALE
Length , In.	<u>346.0</u>	<u>2.076</u>
Max Width , In.	<u>108.0</u>	<u>1.890</u>
Max Depth , In.	<u>113.0</u>	<u>0.678</u>
Fineness Ratio	<u></u>	<u></u>
Area	<u></u>	<u></u>
Max. Cross-Sectional	<u></u>	<u></u>
Planform	<u></u>	<u></u>
Wetted	<u></u>	<u></u>
Base	<u></u>	<u></u>

TABLE III (Cont'd)

MODEL COMPONENT : EXTERNAL TANK - T<sub>2</sub>GENERAL DESCRIPTION : 2A configuration per Rockwell lines:VL78-000018 and VL72-000061C body of revolution.MODEL SCALE: 0.006DRAWING NUMBER : VL78-000018

DIMENSIONS :	FULL SCALE	MODEL SCALE
Length , In.	<u>.1989.0</u>	<u>11.93</u>
Max Width, In.	<u>324.0</u>	<u>1.944</u>
Max Depth	<u>          </u>	<u>          </u>
Fineness Ratio	<u>6.1389</u>	<u>6.1389</u>
Area -- Ft <sup>2</sup>	<u>          </u>	<u>          </u>
Max. Cross-Sectional	<u>572.56</u>	<u>0.0206</u>
Planform	<u>          </u>	<u>          </u>
Wetted	<u>          </u>	<u>          </u>
Base	<u>          </u>	<u>          </u>

MODEL COMPONENT: VERTICAL - V<sub>7</sub>

GENERAL DESCRIPTION: Centerline vertical tail, doublewedge airfoil with rounded leading edge.

NOTE: Same as V<sub>5</sub>, but with manipulator housing removed.

MODEL SCALE: 0.006

DRAWING NUMBER: VL70-000139

DIMENSIONS:

FULL SCALE

MODEL SCALE

TOTAL DATA

Area (Theo) - Ft <sup>2</sup>		
Planform	<u>425.92</u>	<u>0.015</u>
Span (Theo) - In.	<u>315.72</u>	<u>1.894</u>
Aspect Ratio	<u>1.675</u>	<u>1.675</u>
Rate of Taper	<u>0.507</u>	<u>0.507</u>
Taper Ratio	<u>0.404</u>	<u>0.404</u>
Sweep-Back Angles, Degrees.		
Leading Edge	<u>45.000</u>	<u>45.000</u>
Trailing Edge	<u>26.249</u>	<u>26.249</u>
0.25 Element Line	<u>41.130</u>	<u>41.130</u>
Chords:		
Root (Theo) WP	<u>268.50</u>	<u>1.611</u>
Tip (Theo) WP	<u>108.47</u>	<u>0.651</u>
MAC	<u>199.81</u>	<u>1.199</u>
Fus. Sta. of .25 MAC	<u>1463.50</u>	<u>8.781</u>
W.P. of .25 MAC	<u>635.522</u>	<u>3.813</u>
B.L. of .25 MAC	<u>0.0</u>	<u>0.0</u>
Airfoil Section		
Leading Wedge Angle - Deg.	<u>10.0</u>	<u>10.0</u>
Trailing Wedge Angle - Deg.	<u>14.920</u>	<u>14.920</u>
Leading Edge Radius, In.	<u>2.00</u>	<u>0.012</u>
Void Area	<u>13.17</u>	<u>0.0013</u>
Blanketed Area	<u>0.0</u>	<u>0.0</u>



TABLE III. - MODEL DIMENSIONAL DATA - Concluded.

MODEL COMPONENT: WING-W<sub>111</sub>

GENERAL DESCRIPTION: Configuration 3A per Rockwell Lines VL70-000147B.

NOTE: Identical to W<sub>107</sub>, except lowered 3.5" and increased cuff incidence

MODEL SCALE: 0.006

TEST NO.

DWG. NO. VL70-000147B

DIMENSIONS:

FULL-SCALE

MODEL SCALE

TOTAL DATA

Area (Theo.)  $\text{Ft}^2$

Planform

Span (Theo) In.

Aspect Ratio

Rate of Taper

Taper Ratio

Dihedral Angle, degrees

Incidence Angle, degrees

Aerodynamic Twist, degrees

Sweep Back Angles, degrees

Leading Edge

Trailing Edge

0.25 Element Line

Chords:

Root (Theo) B.P.O.O.

Tip, (Theo) B.P.

MAC

Fus. Sta. of .25 MAC

W.P. of .25 MAC

B.L. of .25 MAC

EXPOSED DATA

Area (Theo)  $\text{Ft}^2$

Span, (Theo) In. BP108

Aspect Ratio

Taper Ratio

Chords

Root BP108

Tip 1.00  $\frac{b}{2}$

MAC

Fus. Sta. of .25 MAC

W.P. of .25 MAC

B.L. of .25 MAC

Airfoil Section (Rockwell Mod NASA)

XXXX-64

Root  $\frac{b}{2}$  =

Tip  $\frac{b}{2}$  =

Data for (1) of (2) Sides

Leading Edge Cuff  $\text{Ft}^2$

Planform Area  $\text{Ft}^2$

Leading Edge Intersects Fus M. L. @ Sta

Leading Edge Intersects Wing @ Sta

2690.00 0.0968

936.68 5.620

2.265 2.265

1.177 1.177

0.200 0.200

3.500 3.500

0.500 0.500

+ 3.000 + 3.000

45.000 45.000

- 10.24 - 10.24

35.209 35.209

689.24 4.135

137.85 0.827

474.81 2.849

1136.89 6.821

295.70 1.774

182.13 1.093

1752.29 0.063

720.68 4.324

2.058 2.058

0.2451 0.2451

562.40 3.374

137.85 0.827

393.03 2.358

1185.31 7.112

296.70 1.780

251.76 1.511

0.10 0.10

0.12 0.12

118.333 0.7043

500.0 3.000

1083.5 6.501

Table IV Orbiter Thermocouple Locations

T/C NO.	SKIN THICKNESS	LOCATION		MODEL PART
		DIST. FROM $x_0 = 238.0$	X/L	
1	0.035	0.194	0.025	UNDERSIDE FUSELAGE $\phi$
2	0.035	0.387	0.050	
3	0.035	0.581	0.075	
4	0.034	0.774	0.100	
5	0.033	0.968	0.125	
6	0.033	1.161	0.150	
7	0.034	1.355	0.175	
8	0.034	1.548	0.200	
9	0.035	1.935	0.250	
10	0.035	2.323	0.300	
11	0.035	2.710	0.350	
12	0.034	3.097	0.400	
13	0.034	3.484	0.450	
14	0.035	3.871	0.500	
15	0.035	4.258	0.550	
16	0.035	4.645	0.600	
17	0.035	5.032	0.650	
18	0.035	5.419	0.700	
19	0.035	5.806	0.750	
20	0.035	6.193	0.800	
21	0.035	6.581	0.850	
22	0.035	6.968	0.900	
23	0.036	7.355	0.950	
24	0.036	7.742	1.000	
25	0.036	8.051	1.050	UNDERSIDE FUSELAGE $\phi$ UNDERSIDE FUS. BP117
26	0.030	2.710	0.350	
27	0.027	3.097	0.400	UNDERSIDE FUS. BP117 BODY SIDEWALL
28	0.027	3.871	0.500	
29	0.027	4.645	0.600	UNDERSIDE FUS. BP117 BODY SIDEWALL
30	0.027	5.419	0.700	
31	0.028	6.193	0.800	UNDERSIDE FUS. BP117 BODY SIDEWALL
32	0.031	6.968	0.900	
33	0.036	7.742	1.000	UNDERSIDE FUS. BP117 BODY SIDEWALL
34	0.034	2.323	0.300	
35	0.033	2.323	0.300	UNDERSIDE FUS. BP117 BODY SIDEWALL
36	0.034	2.323	0.300	
37	0.035	3.097	0.400	UNDERSIDE FUS. BP117 BODY SIDEWALL
38	0.034	3.097	0.400	
39	0.035	3.097	0.400	UNDERSIDE FUS. BP117 BODY SIDEWALL
40	0.035	3.097	0.400	
41	0.034	3.871	0.500	UNDERSIDE FUS. BP117 BODY SIDEWALL
		3.871	0.500	

Table IV (Cont'd)

T/C NO.	SKIN THICKNESS	LOCATION		MODEL PART
		DIST. FR $X_0 = 238.0$	X/L	
42	0.035	3.871	0.500	BODY SIDEWALL
43	0.035	4.645	0.600	
44	0.033	4.645	0.600	
45	0.035	4.645	0.600	
46	0.034	5.419	0.700	
47	0.032	5.419	0.700	
48	0.035	5.419	0.700	
49	0.038	6.387	0.825	BODY SIDEWALL
50	0.035	0.774	0.100	OMS POD
51	0.035	1.161	0.150	CHINE
52	0.035	1.548	0.200	CHINE
53	0.035	1.316	1.170	CHINE
54	0.035	3.290	0.425	CANOPY
				MID-BODY

Table IV (Concluded)







T/C NO.	SKIN THICKNESS	LOCATION			MODEL PART
		DIST. FR. L.E.	% CHORD	b/2	
55	0.031	0.149	0.050	40%	WING BP = 187.33  
56	0.030	0.298	0.100	40%	
57	0.030	0.598	0.200	40%	
58	0.029	0.896	0.300	40%	
59	0.028	1.195	0.400	40%	
60	0.028	1.494	0.500	40%	
61	0.028	1.793	0.600	40%	
62	0.028	2.092	0.700	40%	
63	0.029	2.390	0.800	40%	
64	0.029	2.689	0.900	40%	
65	0.034	0.215	0.100	60%	BP = 187.33 BP = 281.00  
66	0.032	0.430	0.200		
67	0.031	0.644	0.300		
68	0.030	0.859	0.400		
69	0.030	1.074	0.500		
70	0.030	1.289	0.600		
71	0.030	1.504	0.700		
72	0.029	1.718	0.800		
73	0.029	1.933	0.900	60%	
74	0.034	0.298	0.200	80%	
75	0.034	0.595	0.400		 BP = 281.00 BP = 314.67 
76	0.034	0.893	0.600		
77	0.035	1.190	0.800	80%	

Table V External Tank Thermocouple Locations

T/C NO.	SKIN THICK.	LOCATION		T/C NO.	SKIN THICK.	LOCATION		T/C NO.	SKIN THICK.	LOCATION	
		X/1	DEG.			X/1	DEG.			X/1	DEG.
1	0.037	0	NOSE	34	0.032	0.40	135	67 *	0.030	0.60	45
2	0.030	0.005	180	35	0.033	0.40	112.5	68	0.030	0.60	0
3	0.030	0.010		36	0.033	0.40	90	69	0.033	0.625	180
4	0.030	0.020		37	0.030	0.40	67.5	70	0.033	0.65	180
5	0.030	0.40		38	0.029	0.40	45	71	0.032	0.65	157.5
6	0.030	0.06		39	0.031	0.40	0	72	0.031	0.65	135
7	0.029	0.08		40	0.032	0.425	180	73 *	0.030	0.65	112.5
8	0.029	0.10		41	0.032	0.45	180	74 *	0.030	0.65	90
9	0.028	0.125		42	0.033	0.45	157.5	75	0.030	0.65	67.5
10	0.028	0.15		43	0.031	0.45	135	76	0.033	0.675	180
11	0.028	0.175		44 *	0.031	0.45	112.5	77	0.033	0.70	180
12	0.028	0.20	180	45 *	0.031	0.45	90	78	0.032	0.70	157.5
13	0.028	0.20	90	46	0.033	0.475	180	79	0.032	0.70	135
14	0.032	0.25	180	47	0.033	0.50	180	80	0.031	0.70	112.5
15 *	0.029	0.25	90	48	0.033	0.50	157.5	81	0.030	0.70	90
16 *	0.030	0.275	112.5	49	0.032	0.50	135	82	0.031	0.70	67.5
17 *	0.030	0.275	90	50	0.033	0.50	112.5	83 *	0.029	0.70	45
18	0.034	0.30	180	51	0.031	0.50	90	84	0.033	0.75	180
19	0.031	0.30	112.5	52	0.031	0.50	67.5	85	0.033	0.75	157.5
20	0.031	0.30	90	53 *	0.030	0.50	45	86	0.032	0.75	135
21	0.030	0.30	67.5	54	0.032	0.525	180	87 *	0.031	0.75	112.5
22	0.031	0.325	135	55	0.032	0.55	180	88 *	0.031	0.75	90
23 *	0.031	0.325	112.5	56	0.033	0.55	157.5	89	0.030	0.75	67.5
24 *	0.031	0.325	90	57	0.031	0.55	135	90	0.033	0.80	180
25	0.032	0.35	180	58 *	0.031	0.55	112.5	91	0.033	0.80	157.5
26	0.032	0.35	135	59 *	0.031	0.55	90	92	0.032	0.80	135
27 *	0.031	0.35	112.5	60	0.032	0.575	180	93	0.032	0.80	112.5
28 *	0.031	0.35	90	61	0.032	0.60	180	94	0.031	0.80	90
29 *	0.031	0.35	67.5	62	0.033	0.60	157.5	95	0.030	0.80	67.5
30	0.034	0.375	180	63	0.031	0.60	135	96	0.029	0.80	45
31	0.032	0.375	135	64	0.031	0.60	112.5	97	0.030	0.80	0
32	0.033	0.40	180	65	0.031	0.60	90	98	0.033	0.85	180
33	0.032	0.40	157.5	66	0.031	0.60	67.5	99	0.032	0.85	157.5
								100	0.032	0.85	135
								101 *	0.030	0.85	112.5
								102 *	0.030	0.85	90
								103	0.030	0.90	180
								104	0.033	0.90	157.5
								105	0.032	0.90	135
								106	0.032	0.90	112.5
								107	0.031	0.90	90
								108	0.030	0.90	67.5
								109 *	0.029	0.90	45
								110	0.033	0.935	180
								111	0.033	0.974	180

\* Thermocouples not used for this test (IH19)



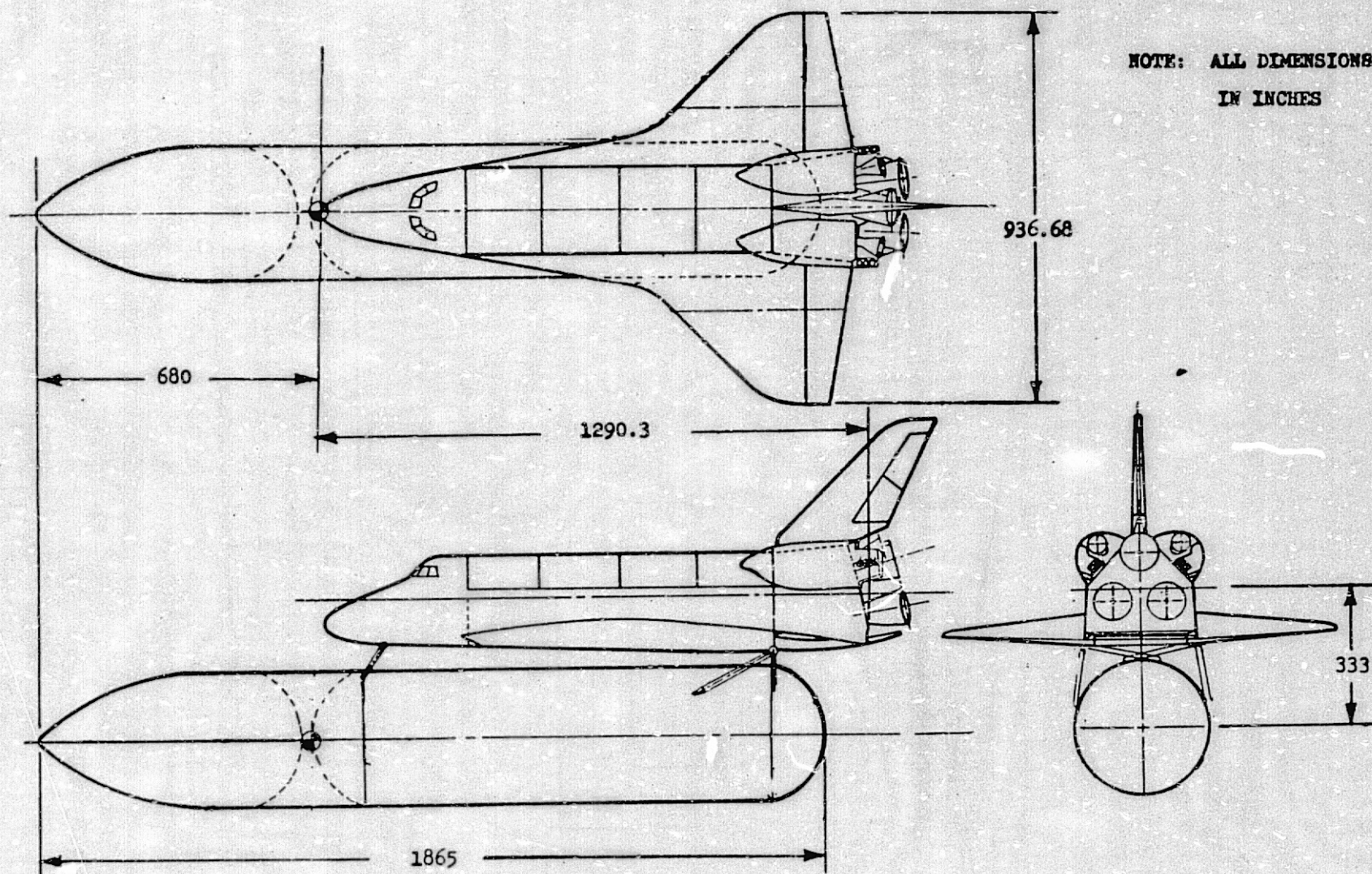
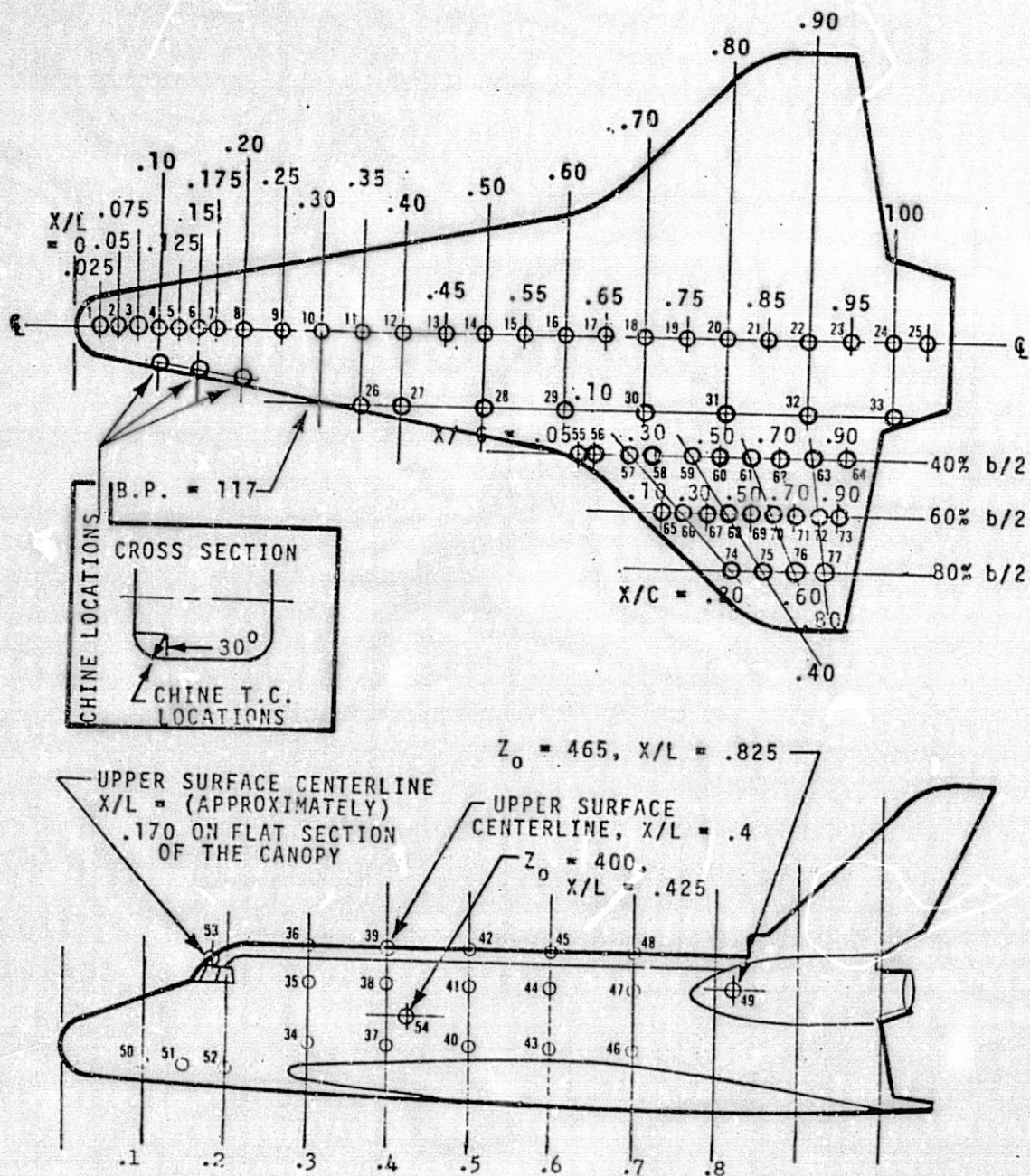


Figure 1. - Integrated Vehicle General Arrangement.



a. 50-O Orbiter Thermocouple Locations

Figure 2. - Model instrumentation.

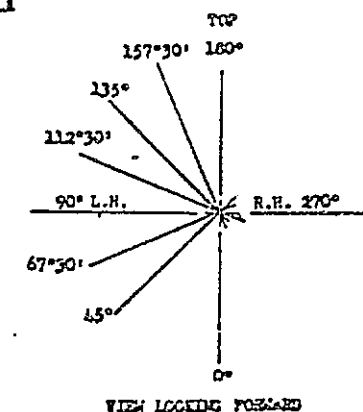
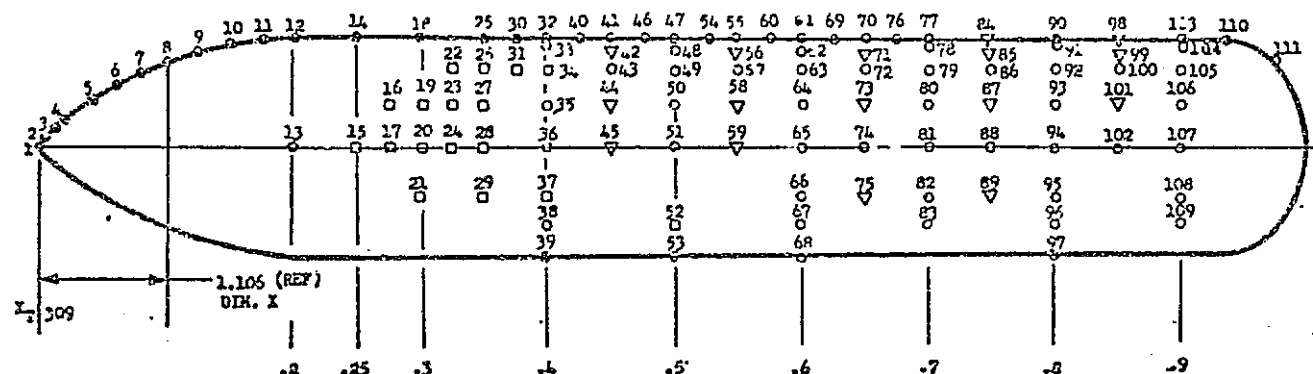
T/C NO.	DIR. X	$\phi$
1	0	180°
2	.055	180°
3	.111	↑
4	.221	↑
5	.442	↑
6	.664	↑
7	.885	↑
8	1.105	↑
9	1.322	↓
10	1.659	↓
11	1.995	↓
12	2.212	180°
13	2.212	90°
14	2.765	180°
15	2.765	90°
16	3.061	112°30'
17	3.061	90°
18	3.318	180°
19	↑	112°30'
20	↓	90°
21	3.318	67°30'
22	3.594	135°
23	3.594	112°30'
24	3.594	90°
25	3.871	180°

T/C NO.	DIR. X	$\phi$
26	3.871	135°
27	↑	112°30'
28	↓	90°
29	3.871	67°30'
30	4.147	180°
31	4.147	135°
32	4.424	180°
33	↑	157°30'
34	↓	135°
35	↓	112°30'
36	↓	90°
37	↓	67°30'
38	↓	45°
39	4.424	0°
40	4.700	180°
41	4.977	180°
42	↑	157°30'
43	↓	135°
44	↓	112°30'
45	4.977	90°
46	5.253	180°
47	5.530	180°
48	↑	157°30'
49	↓	135°
50	5.530	112°30'

T/C NO.	DIR. X	$\phi$
51	5.530	90°
52	5.530	67°30'
53	5.530	45°
54	5.806	180°
55	6.082	180°
56	↑	157°30'
57	↓	135°
58	↓	112°30'
59	6.082	90°
60	6.359	180°
61	6.635	180°
62	↓	157°30'
63	↑	135°
64	↑	112°30'
65	↑	90°
66	↓	67°30'
67	↓	45°
68	6.635	0°
69	6.912	180°
70	7.188	180°
71	↑	157°30'
72	↑	135°
73	↓	112°30'
74	↓	90°
75	7.188	67°30'

T/C NO.	DIR. X	$\phi$
76	7.465	180°
77	7.741	180°
78	↑	157°30'
79	↑	135°
80	↑	112°30'
81	↓	90°
82	↓	67°30'
83	7.741	45°
84	8.294	180°
85	↑	157°30'
86	↑	135°
87	↓	112°30'
88	↓	90°
89	8.294	67°30'
90	8.847	180°
91	↑	157°30'
92	↑	135°
93	↑	112°30'
94	↓	90°
95	↓	67°30'
96	8.847	45°
97	↑	0°
98	9.400	180°
99	9.400	157°30'
100	9.400	135°

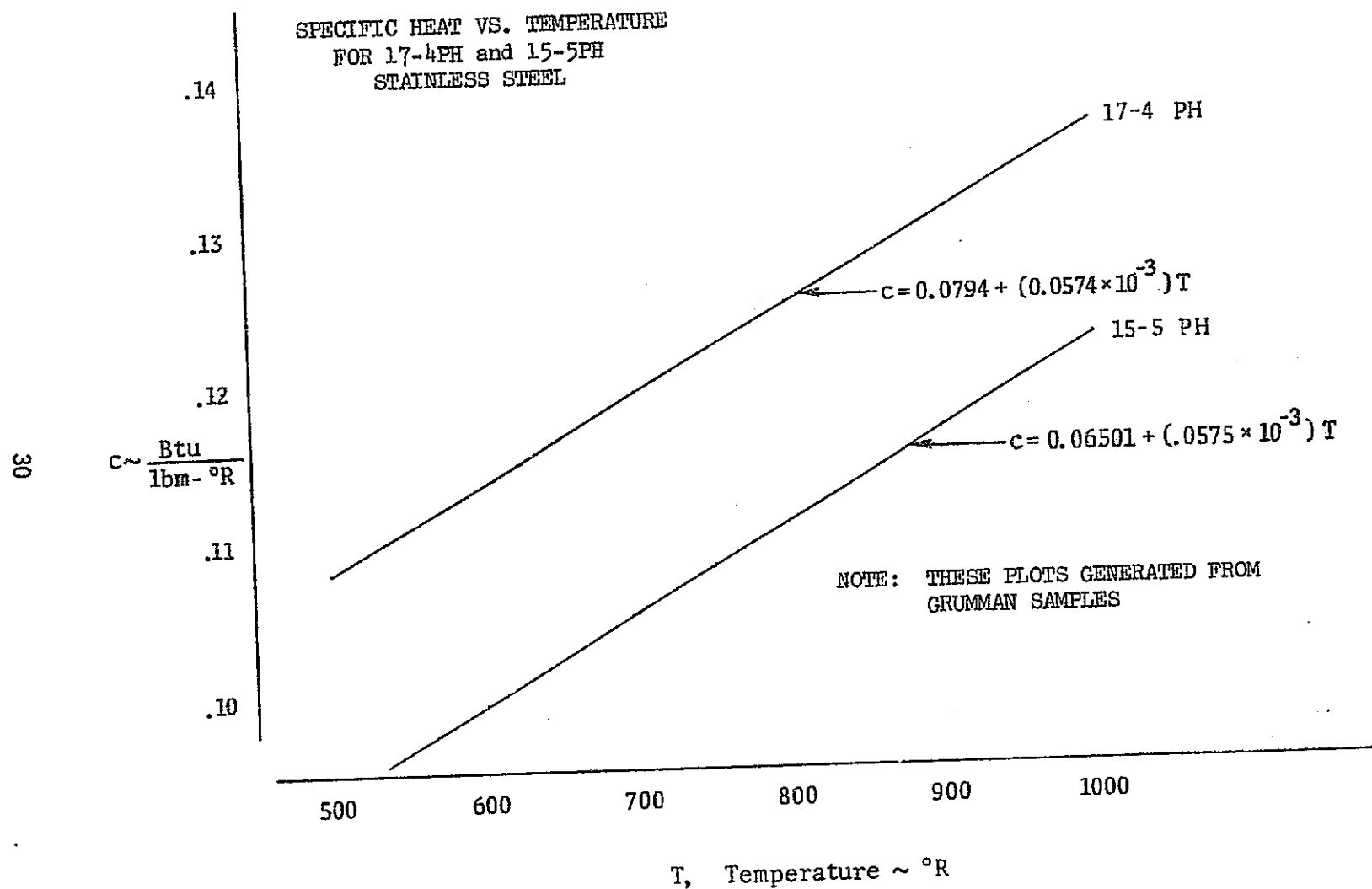
T/C NO.	DIR. X	$\phi$
101	9.400	112°30'
102	9.400	90°
103	9.953	180°
104	↑	157°30'
105	↑	135°
106	↑	112°30'
107	↓	90°
108	↓	67°30'
109	9.953	45°
110	10.336	180°



b. 41-T 0.006-Scale External Tank Thermocouple Locations

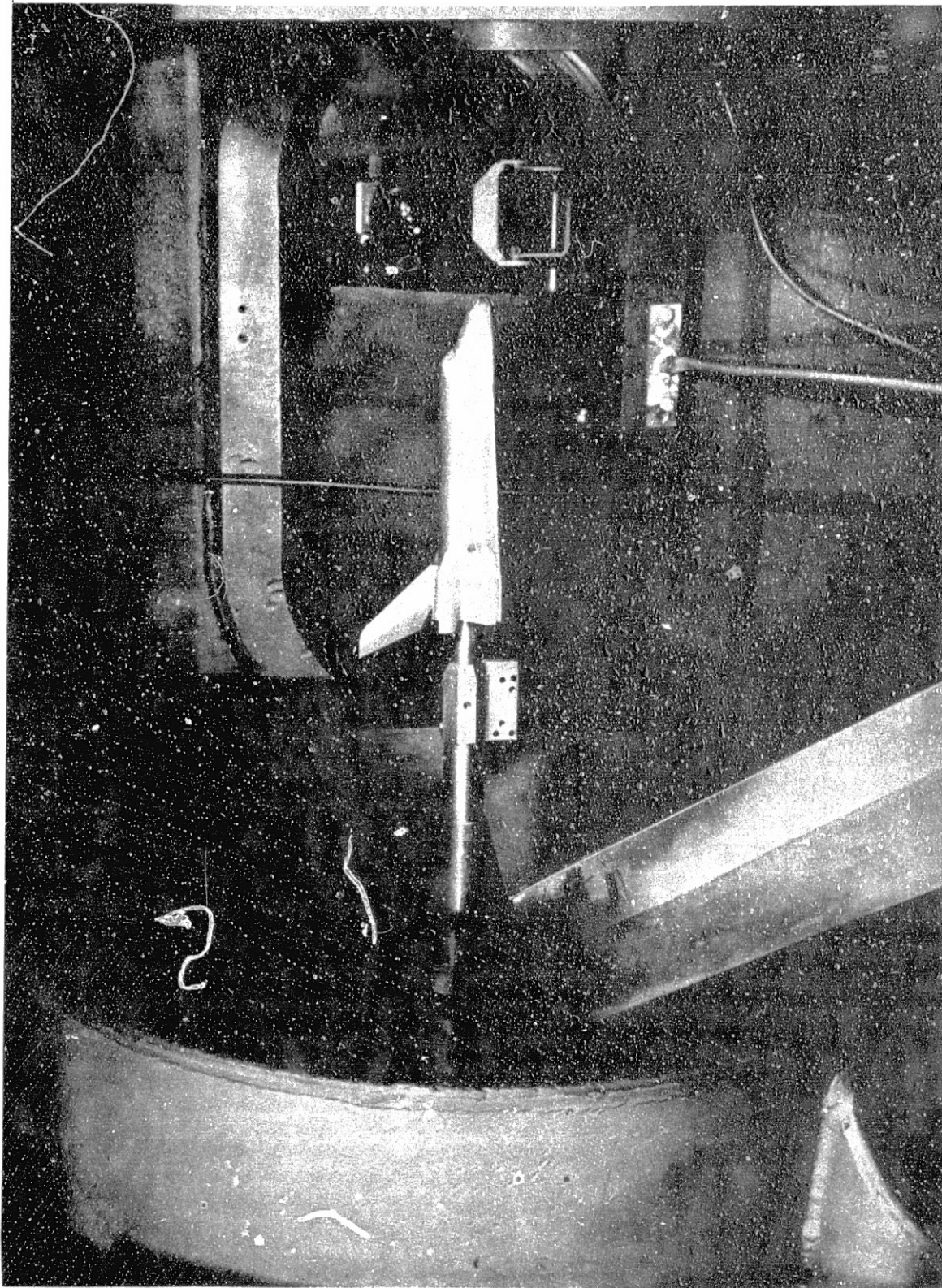
Figure 2. - Continued.



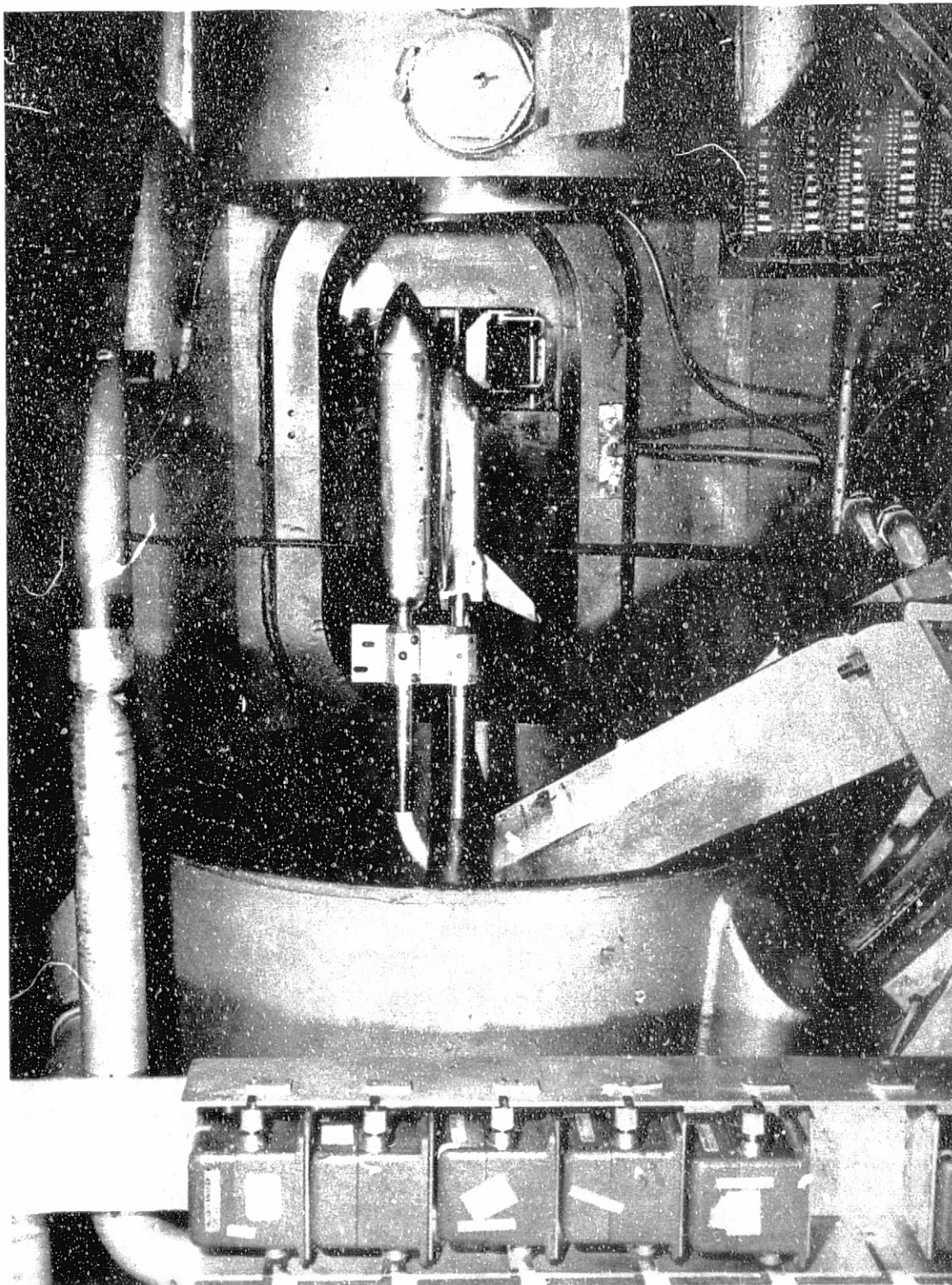


c. Specific Heat Curve

Figure 2. - Concluded.



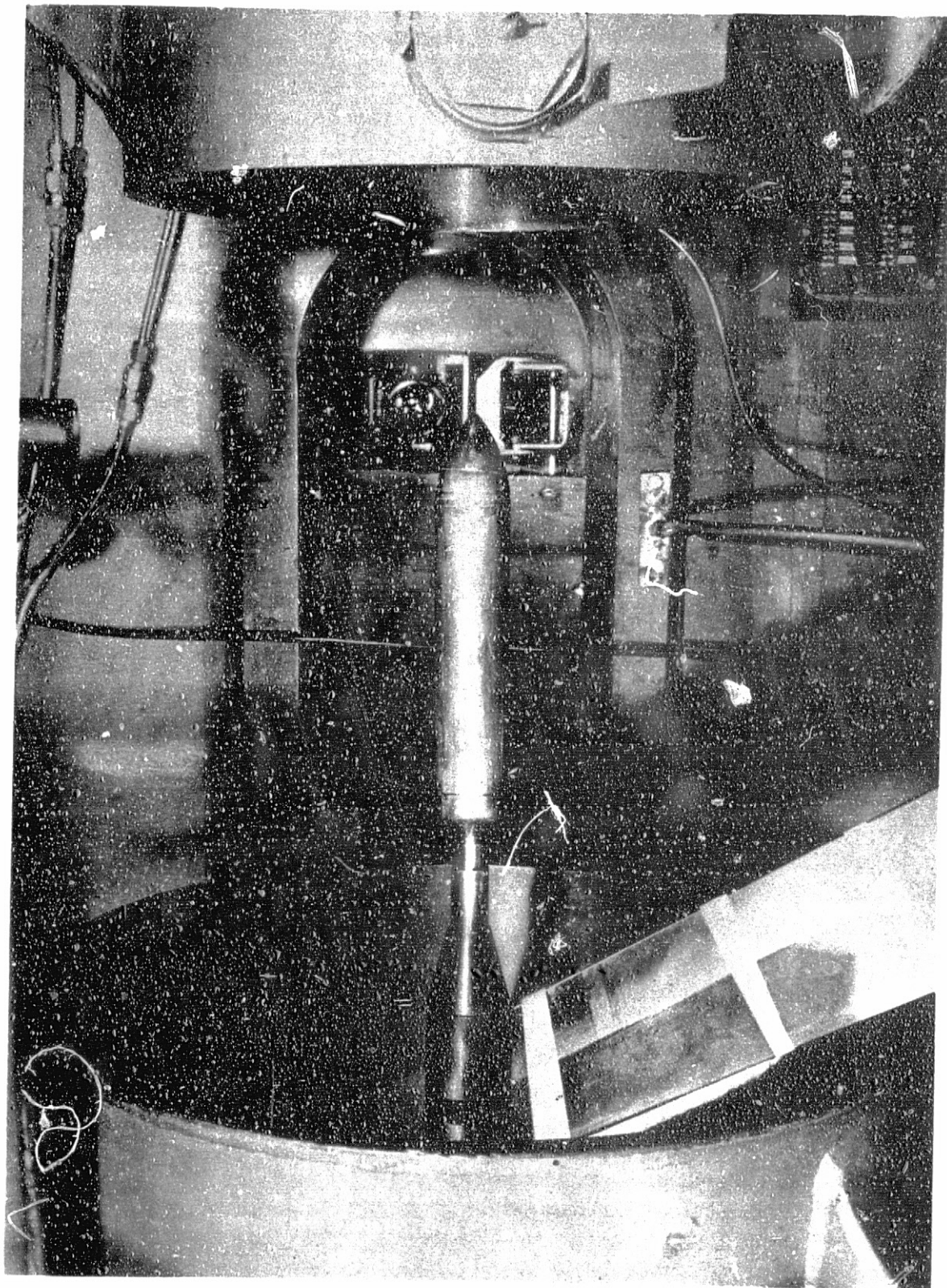
a. Orbiter Alone, No Trips  
Figure 3. - Model photographs.



b. Orbiter Plus External Tank, No Trips

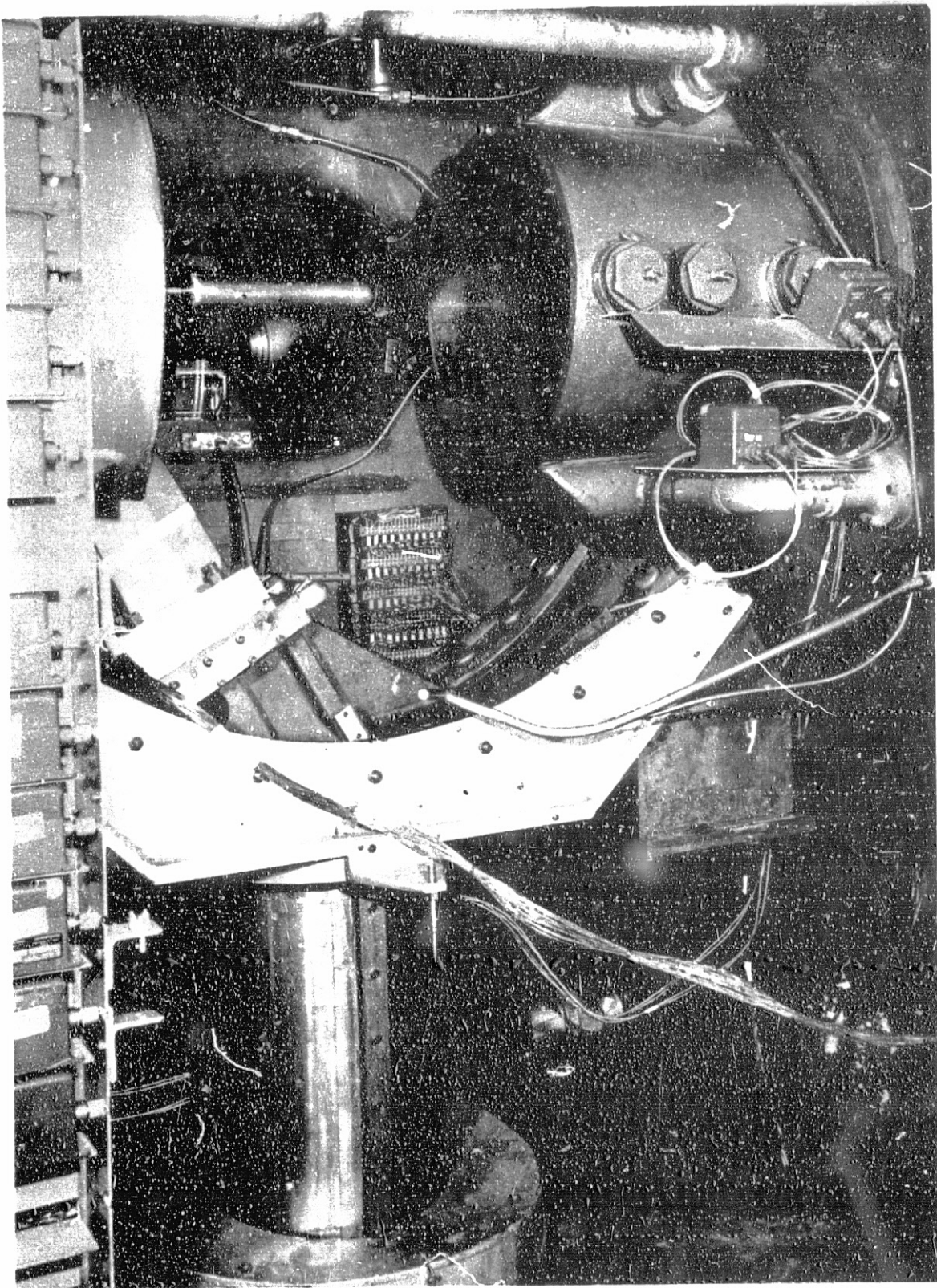
Figure 3. - Continued.





c. External Tank Alone, Boundary Layer Trip

Figure 3. - Continued.



d. Typical Model Installation

Figure 3. - Concluded.

DATA FIGURES

IH19 T8

EXTERNAL TANK

(SQET07)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	.000	-10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	MACH	19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

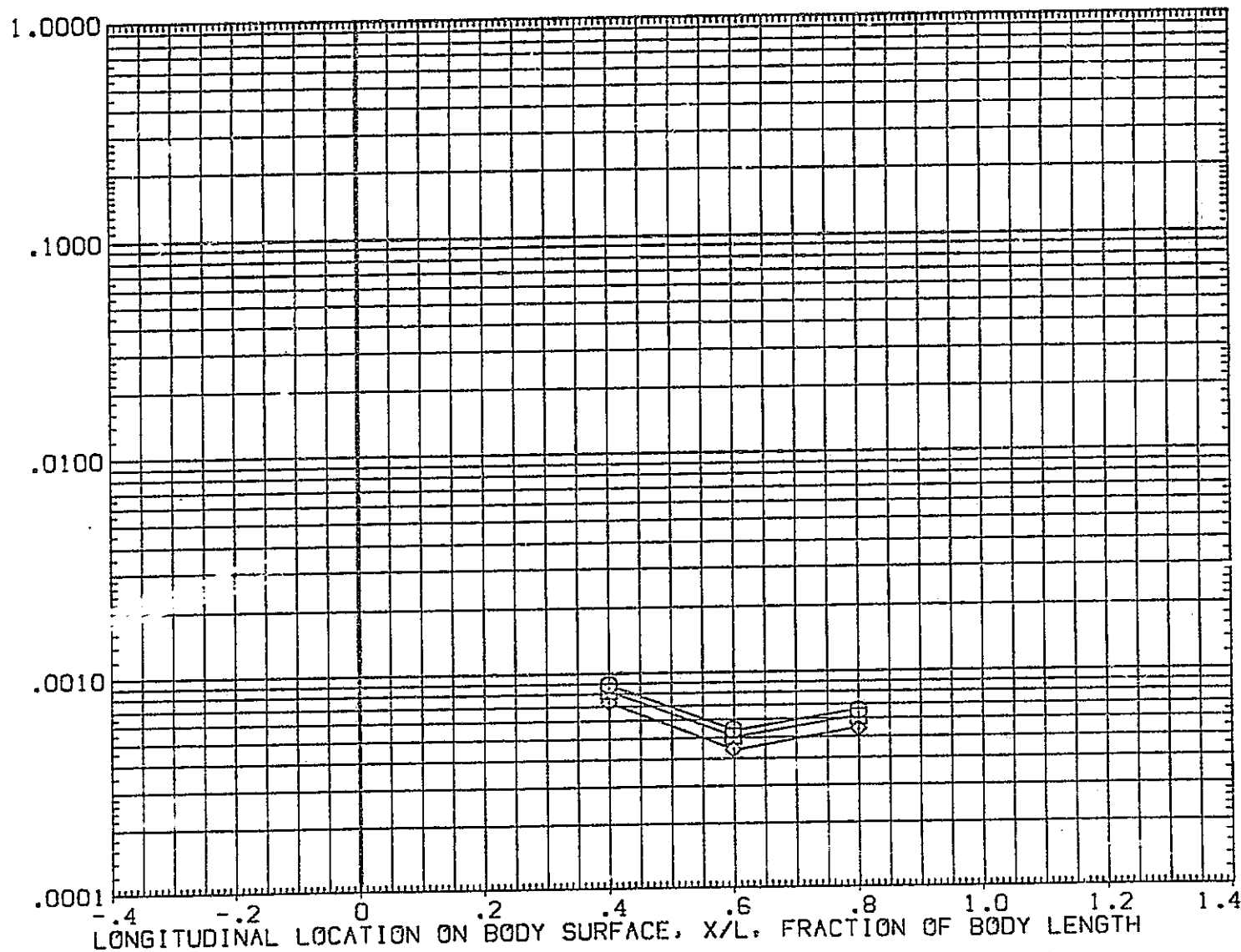


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

IH19 T8

EXTERNAL TANK

(SQET07)

SYMBOL	HAW/HT	PHI	ALPHA
□	.850	45.000	-10.000
◇	.900		
	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.600

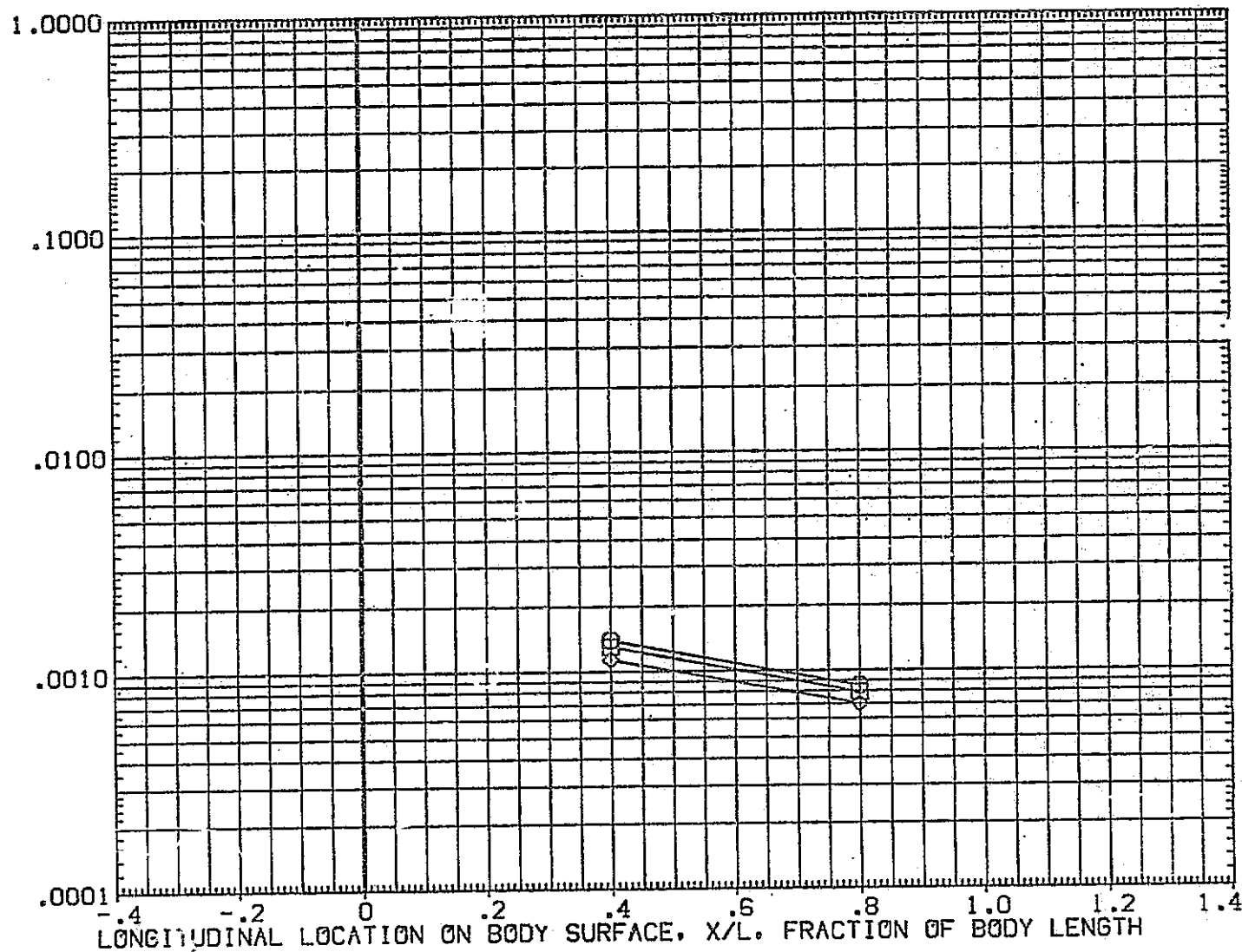
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF





1H19 T8

EXTERNAL TANK

(SQET07)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	67.500	-10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

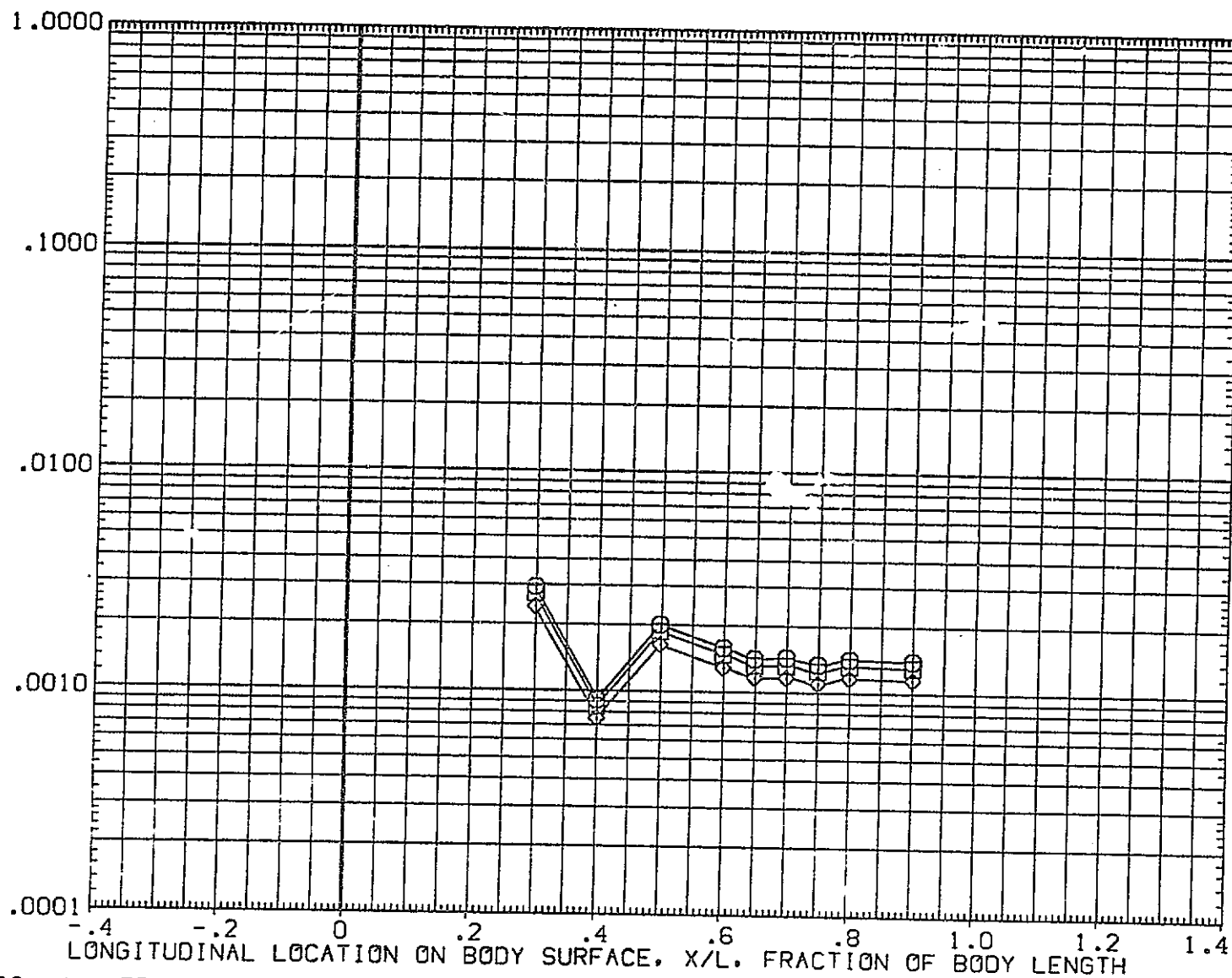


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

IH19 T8

EXTERNAL TANK

(SQETO7)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.650	90.000	-10.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.000

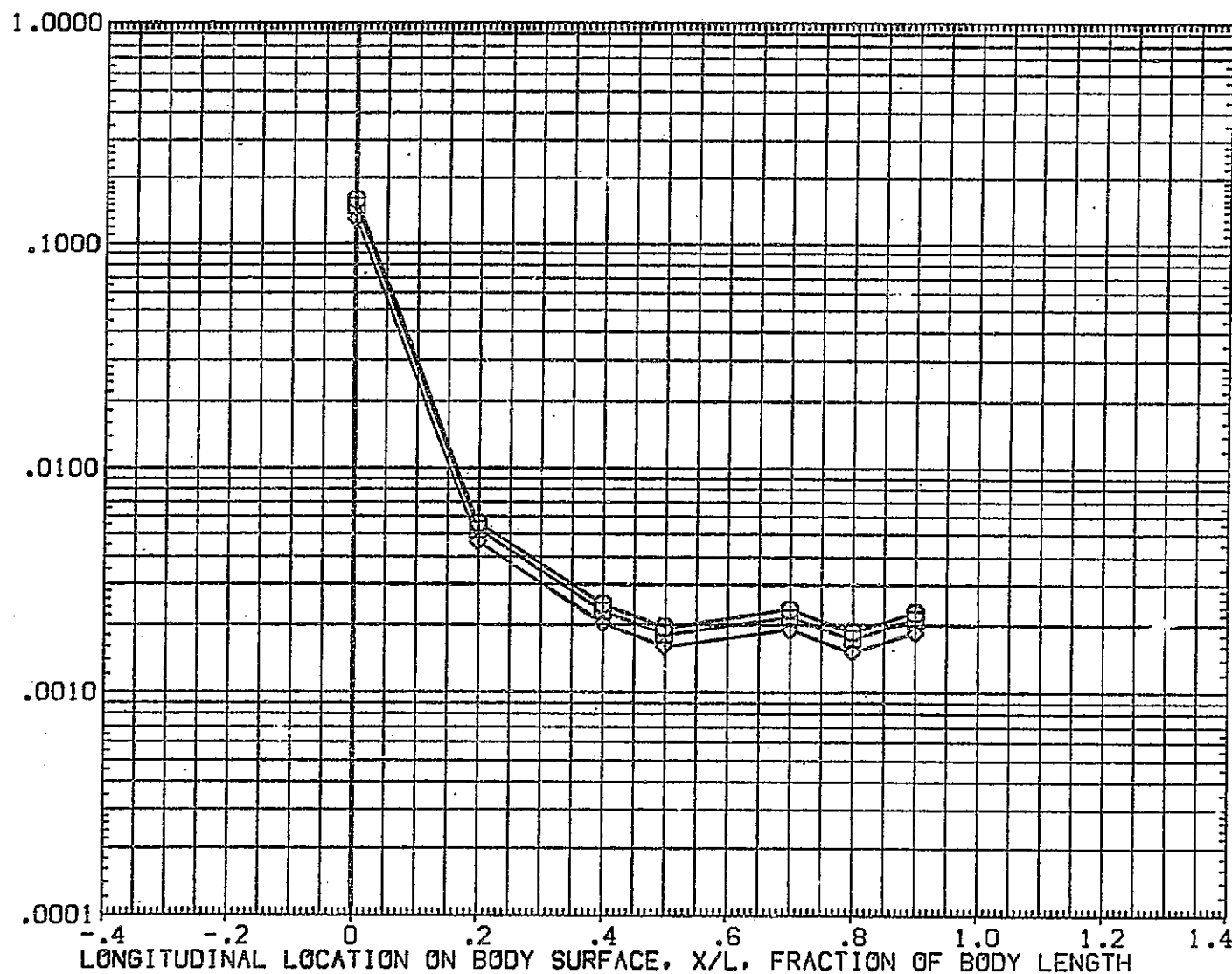
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $h/h_{REF}$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF



IH19 T8

EXTERNAL TANK

(SQET07)

SYMBOL	HAW/HT	PHI	ALPHA
□	.850	112.500	-10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	MACH	19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

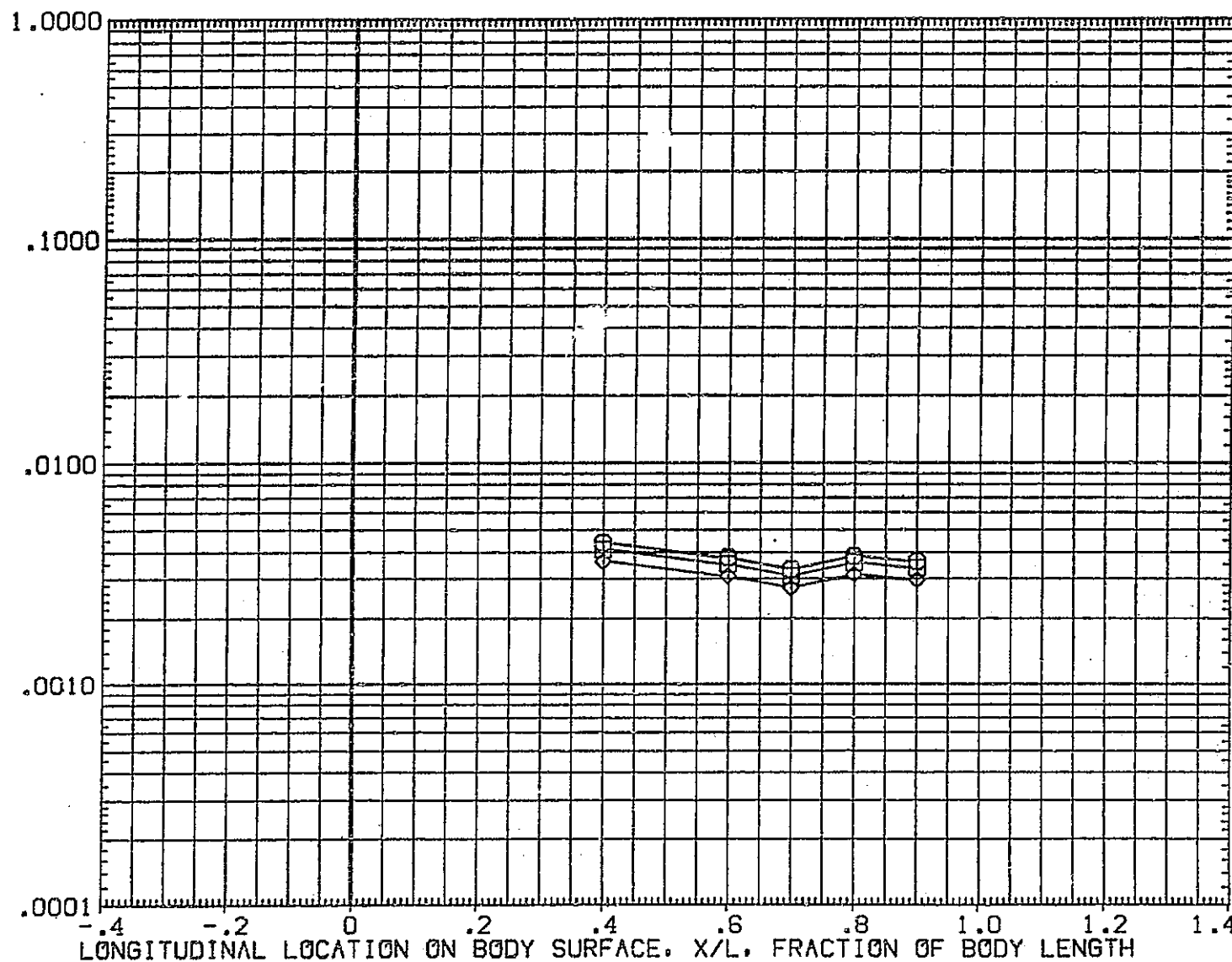


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

IH19 T8

EXTERNAL TANK

(SQET07)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	135.000	-10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RM/L .500
BLTRIP	.000	MACH 19.800

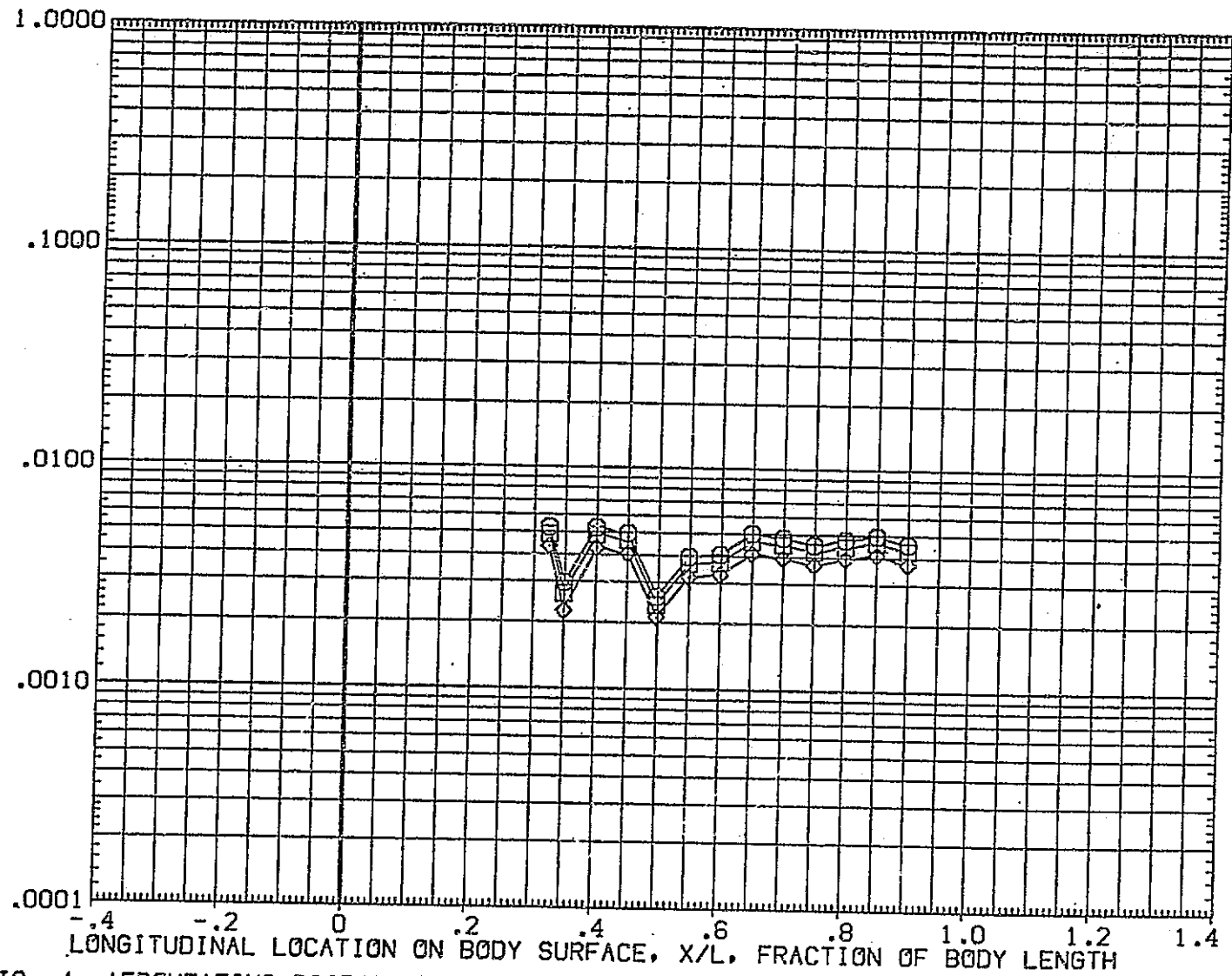
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF



IH19 T8

EXTERNAL TANK

(SQET07)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	157.500	-10.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

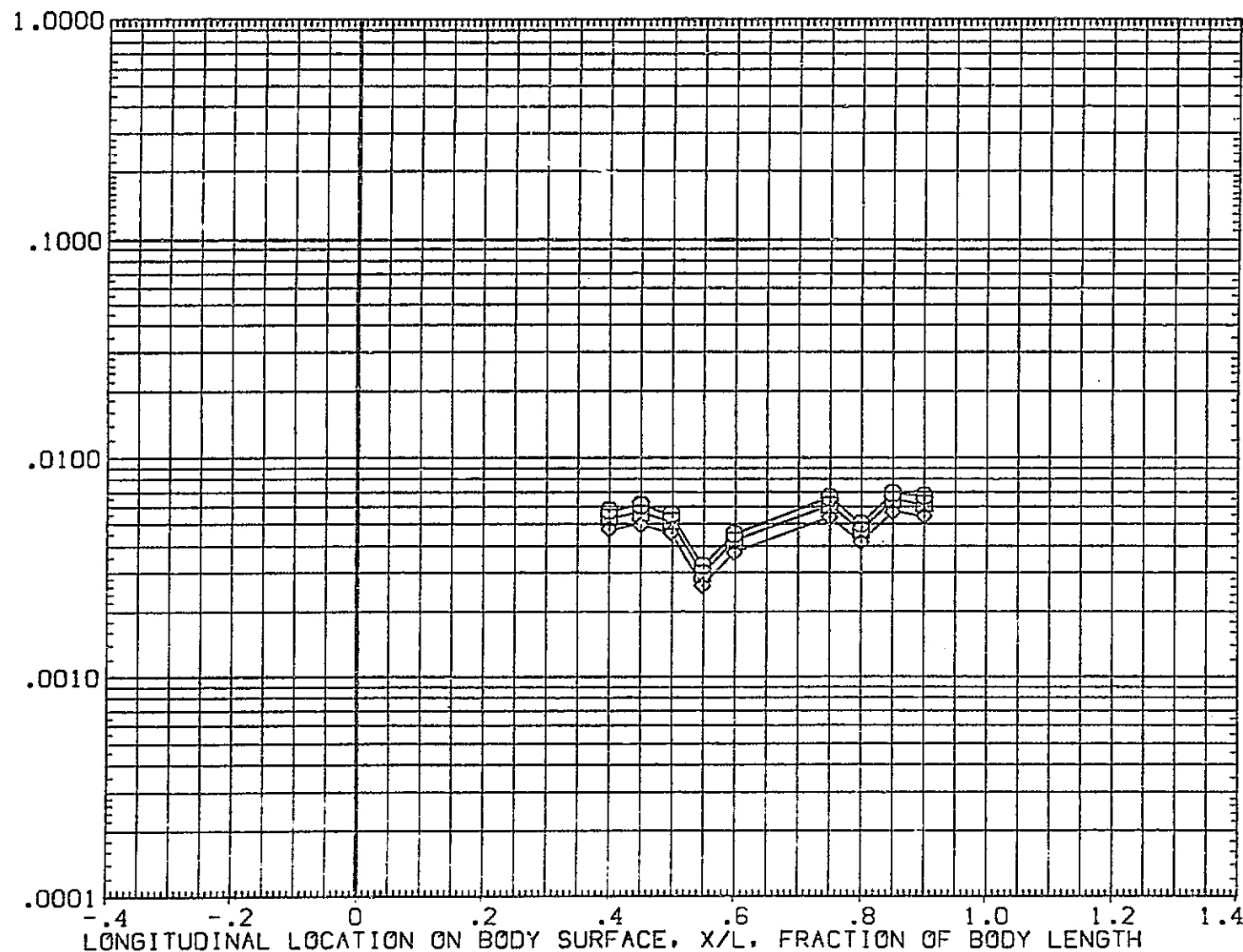


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

IH19 T8

EXTERNAL TANK

(SQET07)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	180.000	-10.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

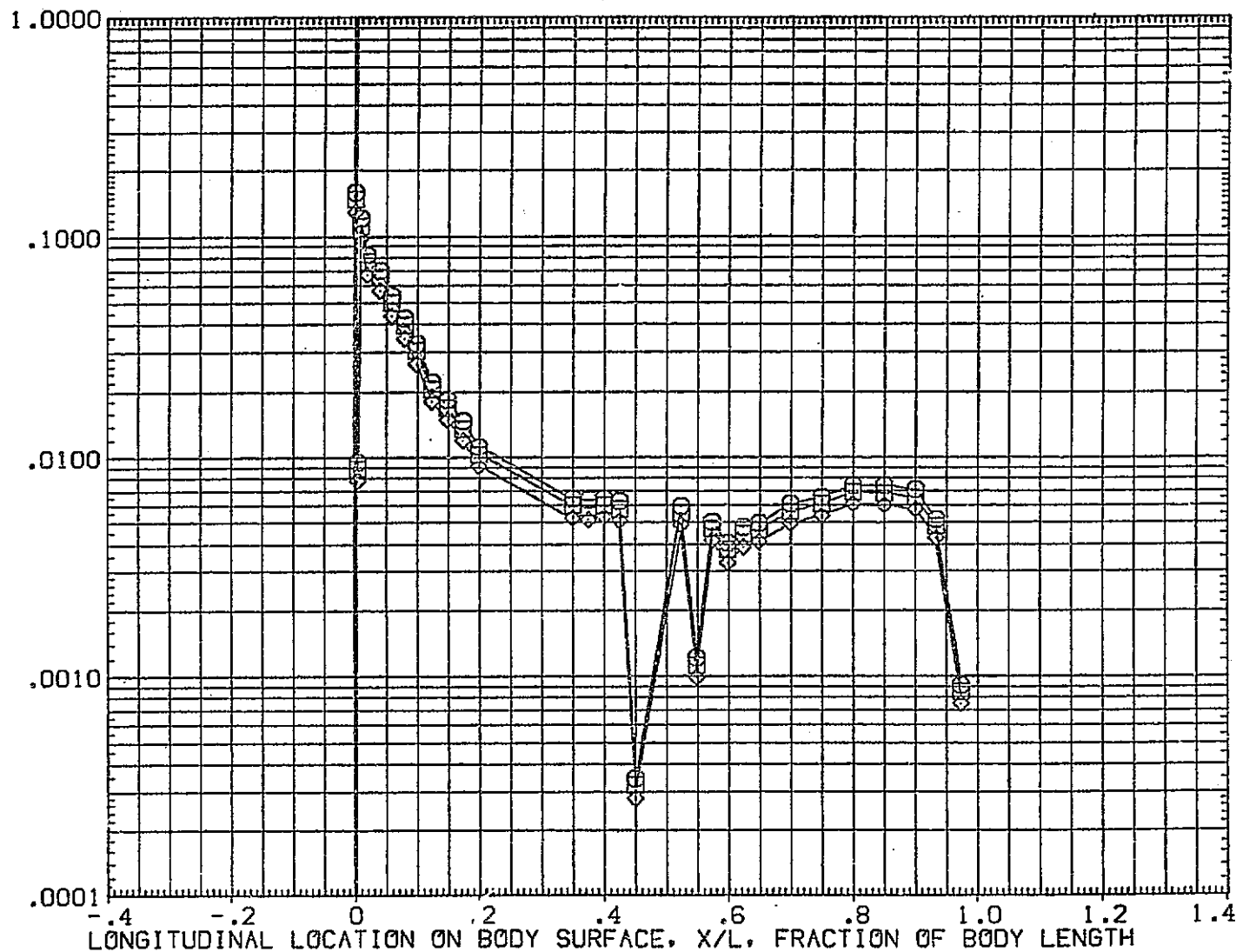


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF



IH19 T8

EXTERNAL TANK

(SQET07)

SYMBOL	HAW/HT	FHI	ALP-1A
○	.850	.000	-3.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	HACH	19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

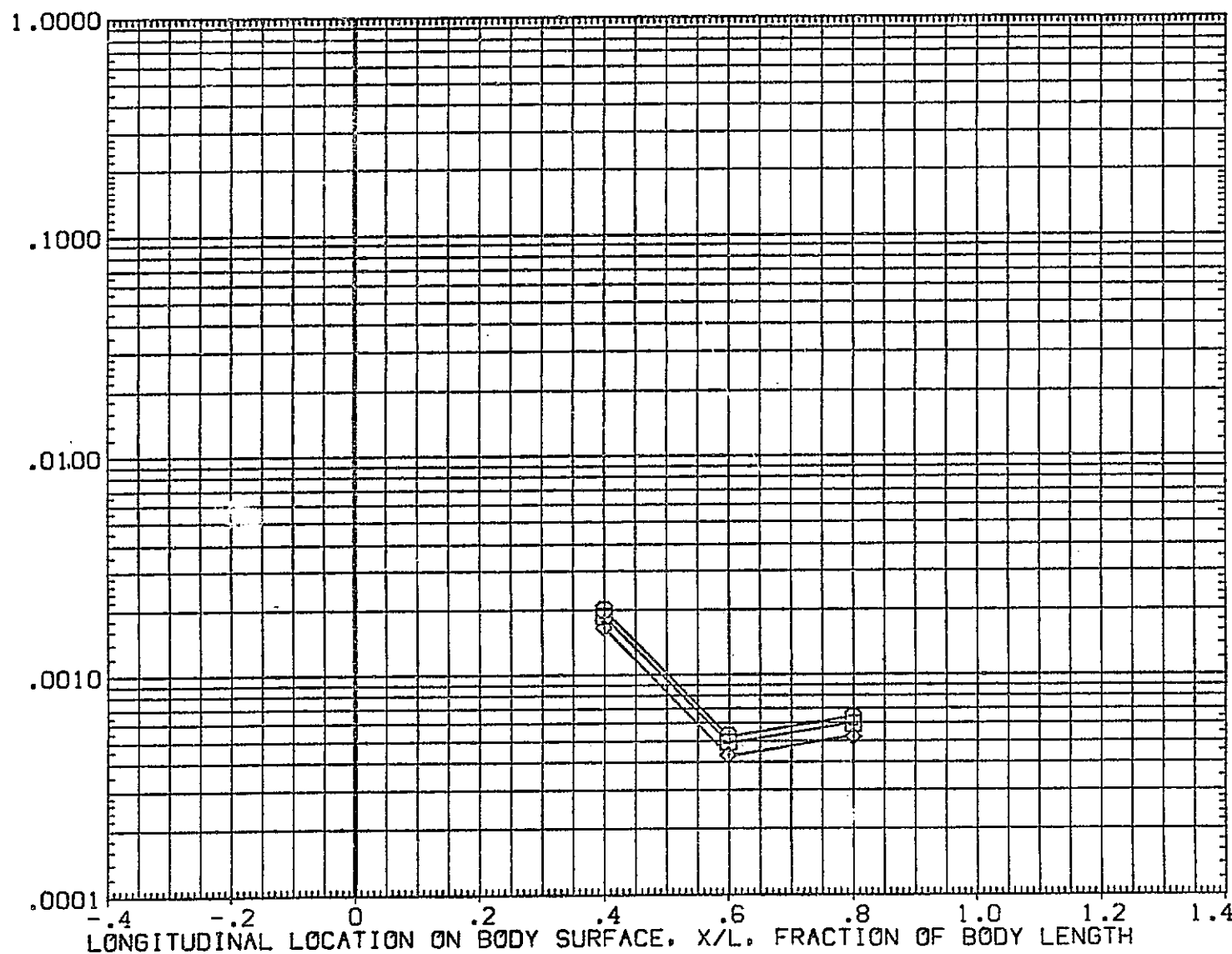


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	45.000	-5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

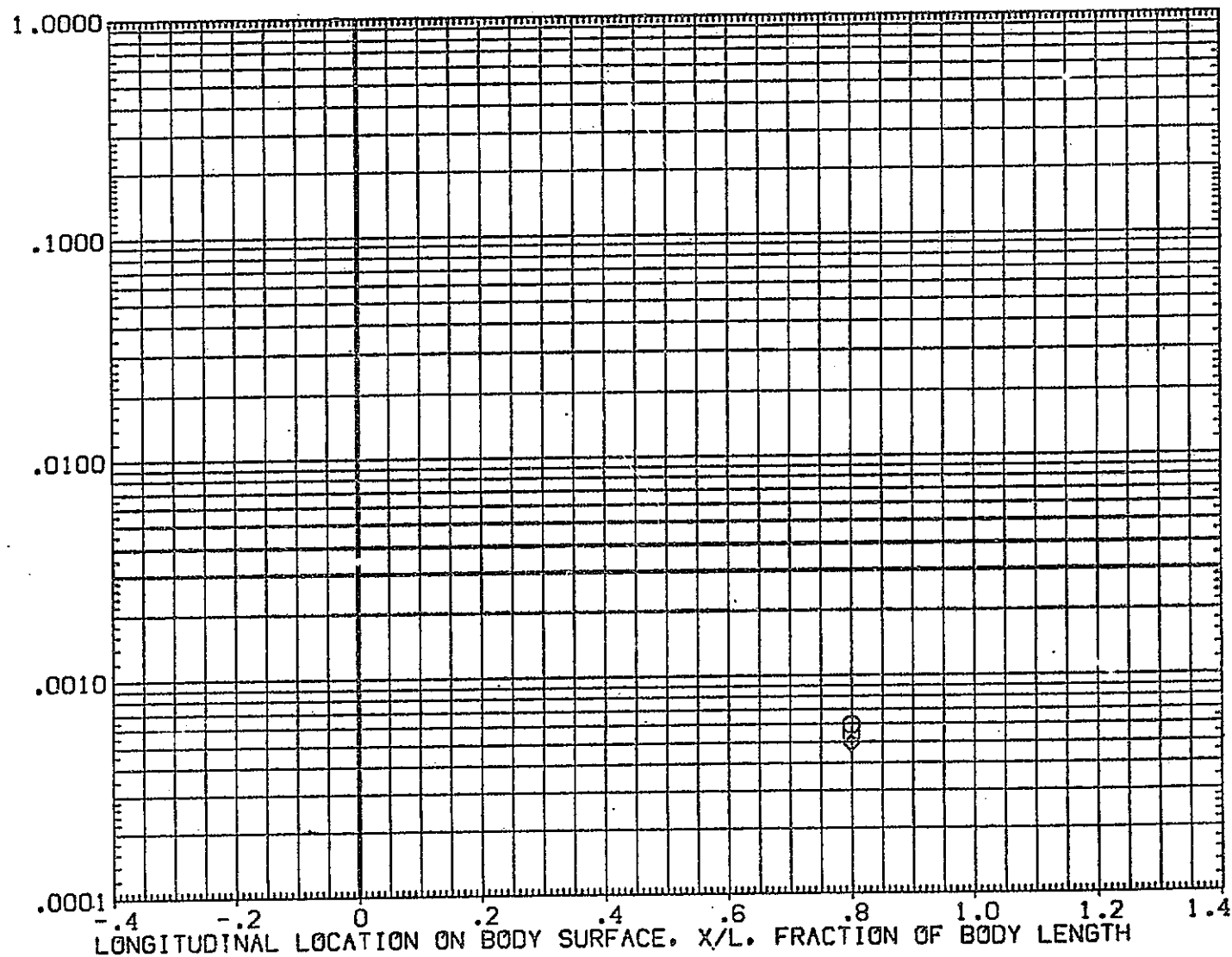
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF



IH19 T8

EXTERNAL TANK

(SQETO7)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	67.500	-5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	MACH	19.800

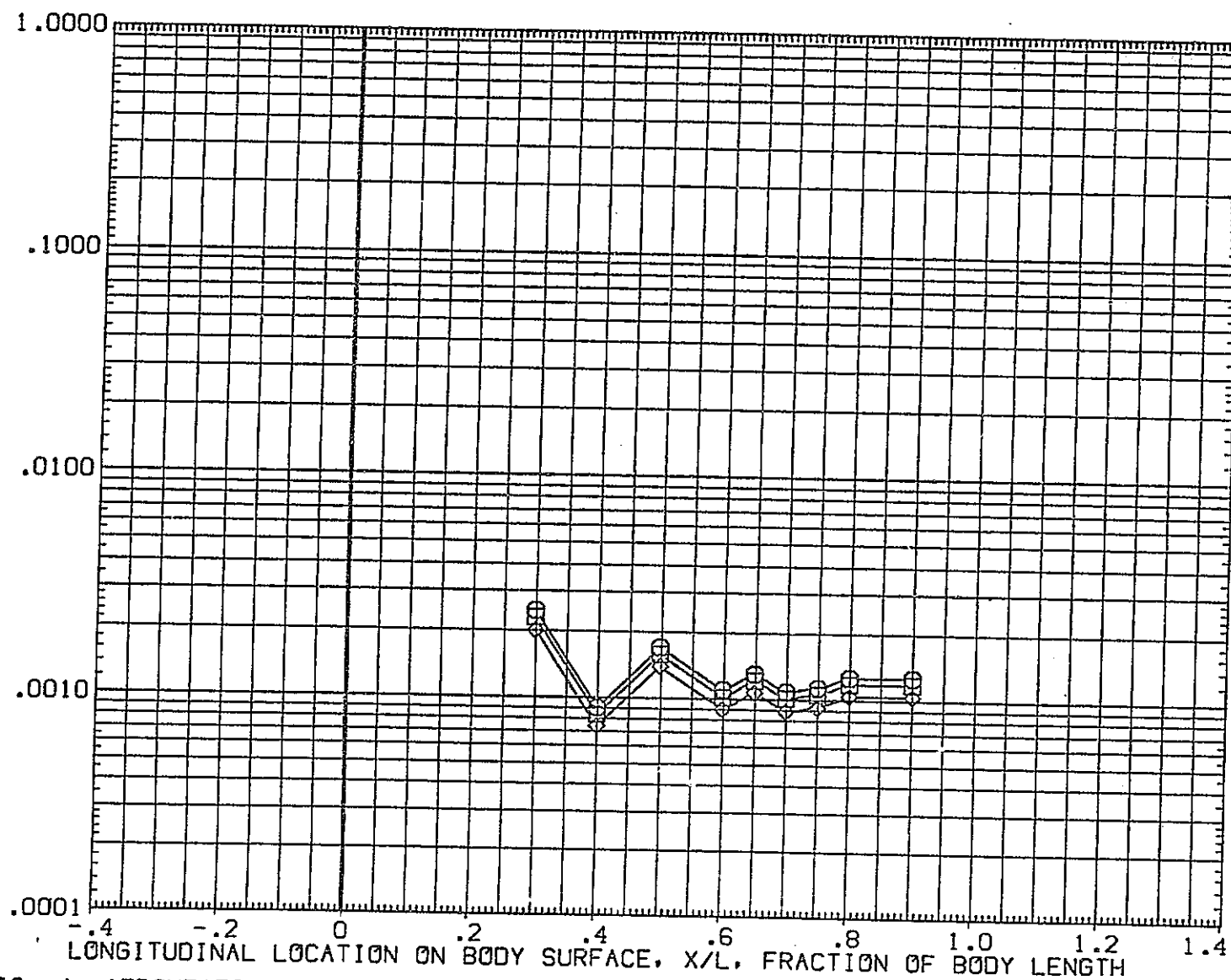
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

IH19 T8

EXTERNAL TANK

(SQET07)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	90.000	-5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

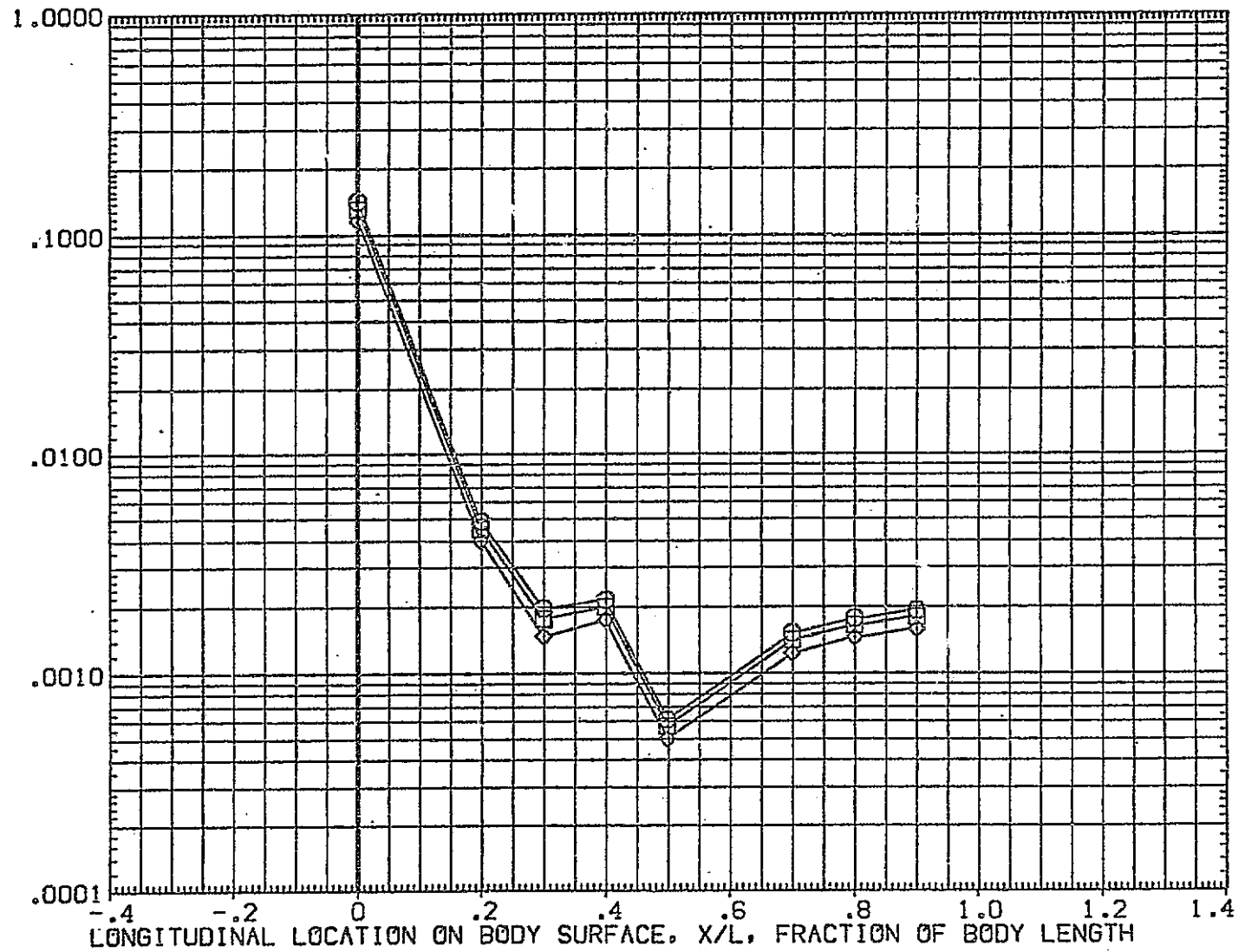
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

IH19 T8

EXTERNAL TANK

(SQET07)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	112.500	-5.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/1 .500
BLTRIP	.000	MACH 19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

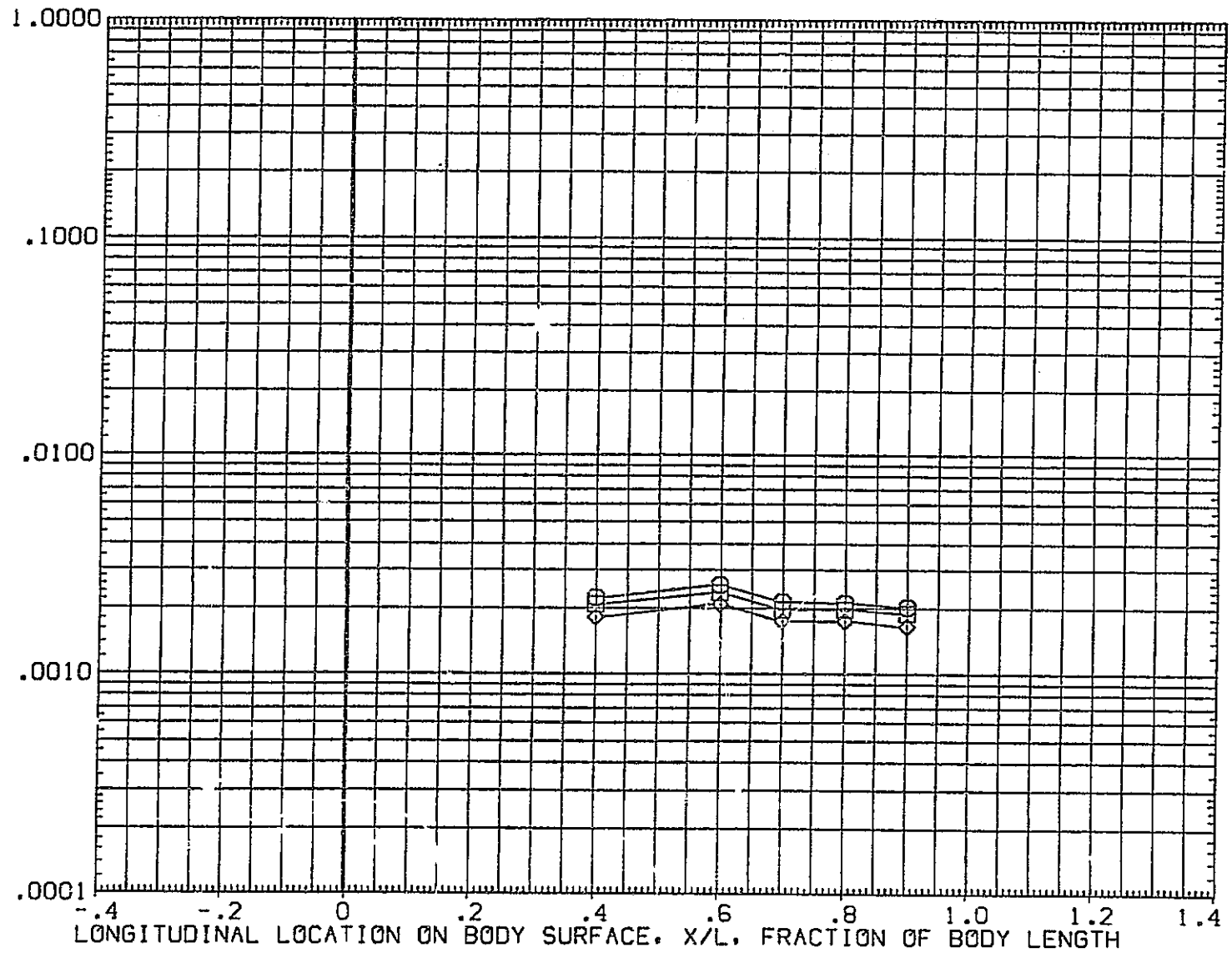


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	135.000	-5.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	HACH 19.800

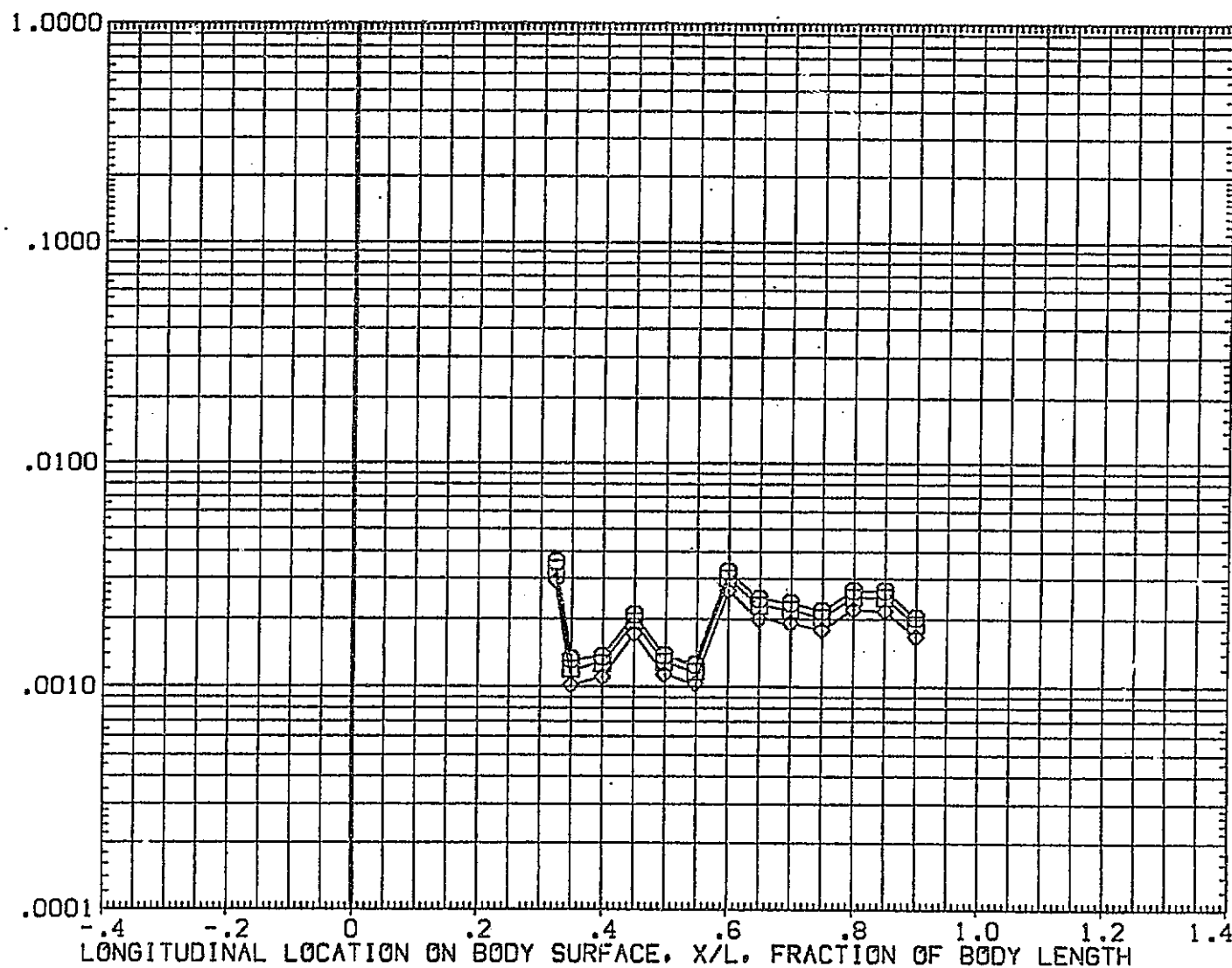
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

IH19 T8

EXTERNAL TANK

(SQET07)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	157.500	-5.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

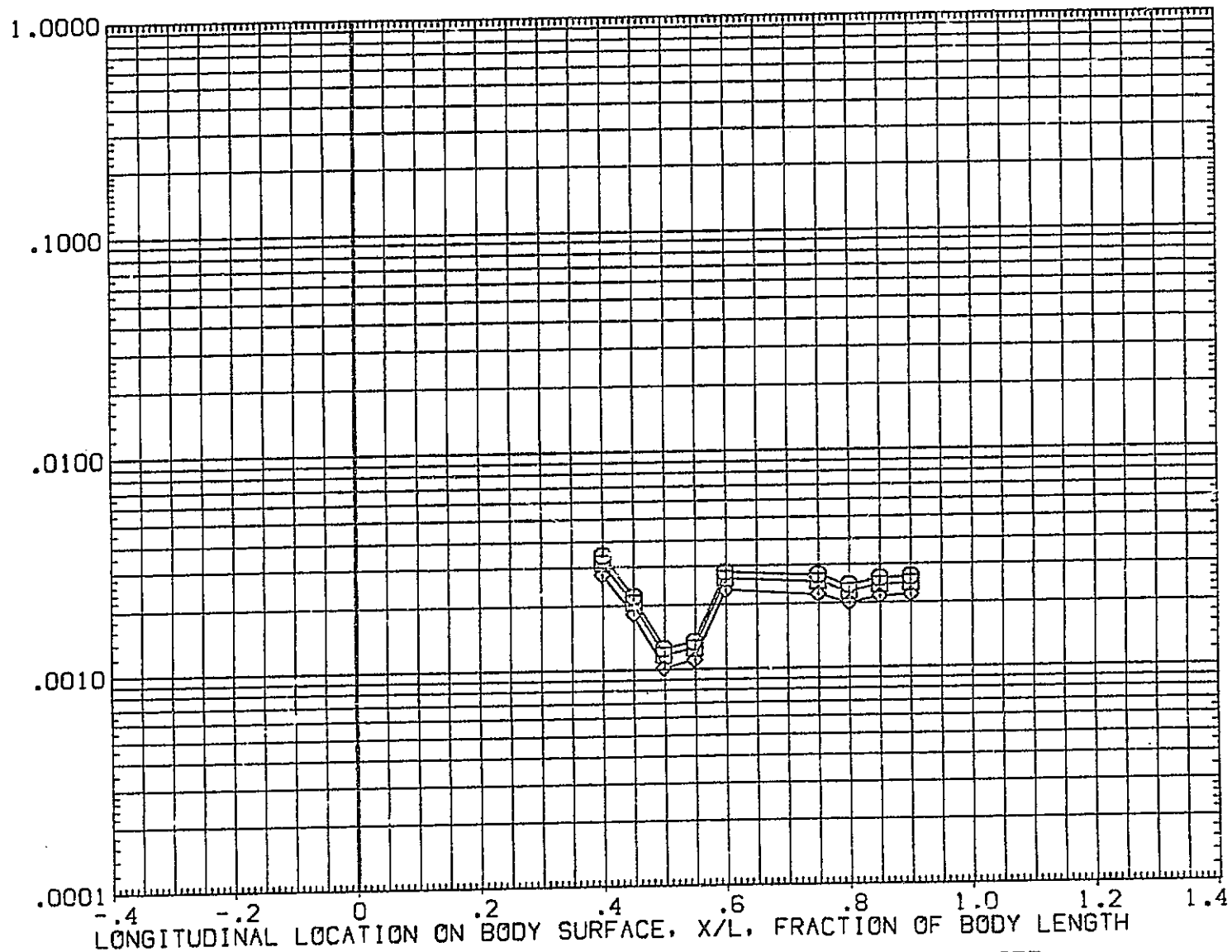
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

IH19 T8

EXTERNAL TANK

(SQET07)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	180.000	-5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	HACH 19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

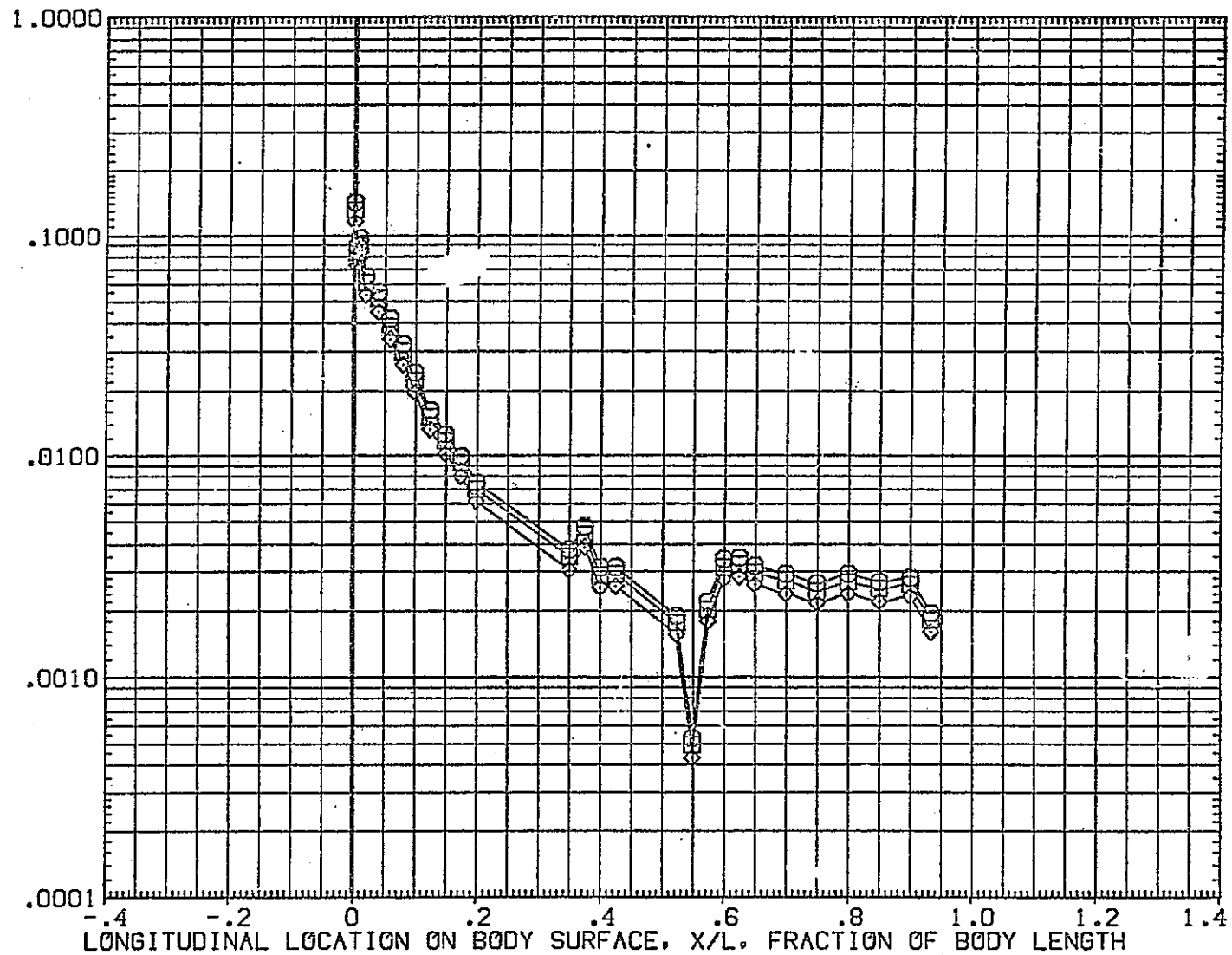


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

IH19 T8

EXTERNAL TANK

(SQET07)

SYMBOL	HAW/HT	PHI	ALPHA
□	.850	.000	.000
□	.500		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

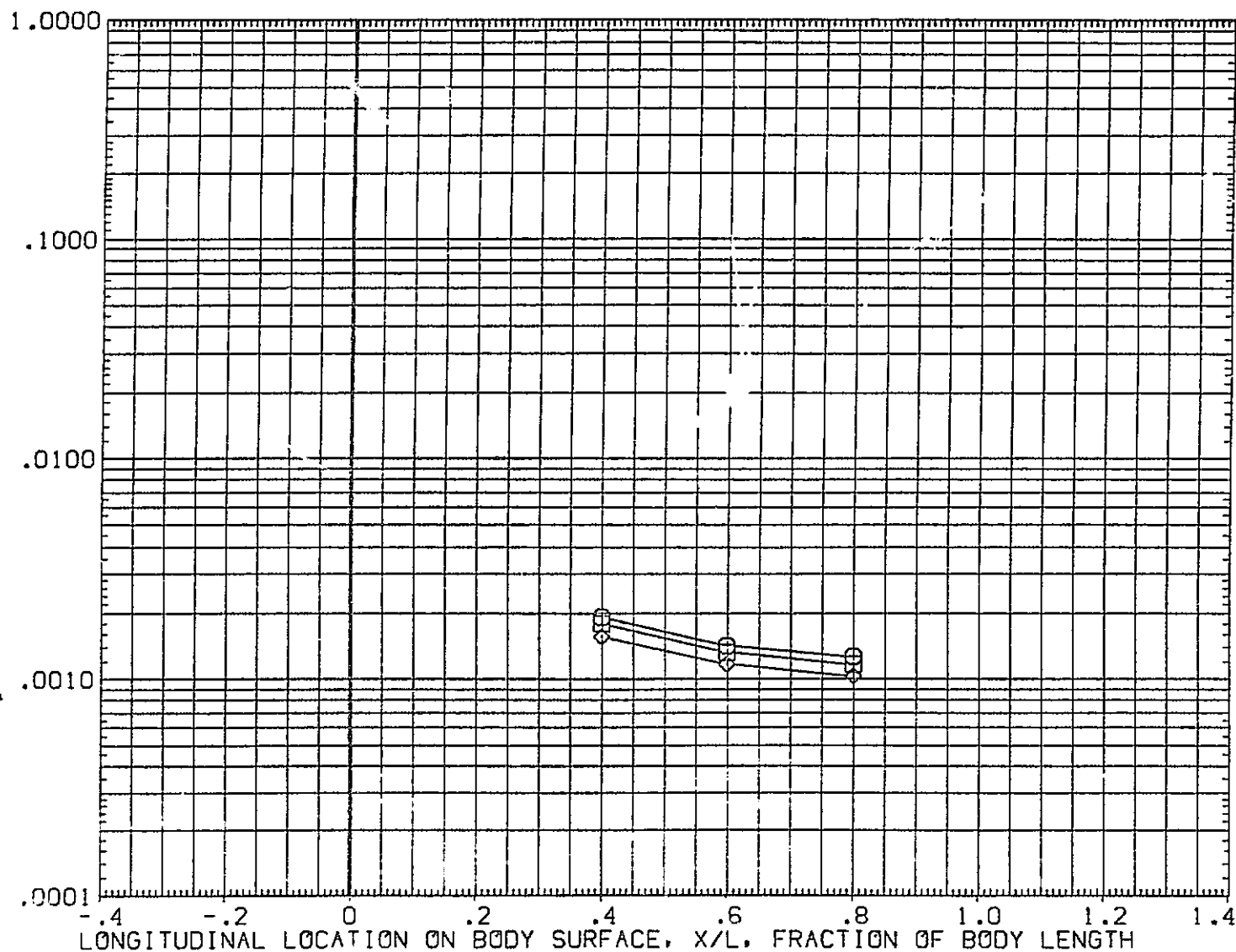
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

SYMBOL	HAW/HT	PHI	ALPHA
□	.850	45.000	.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

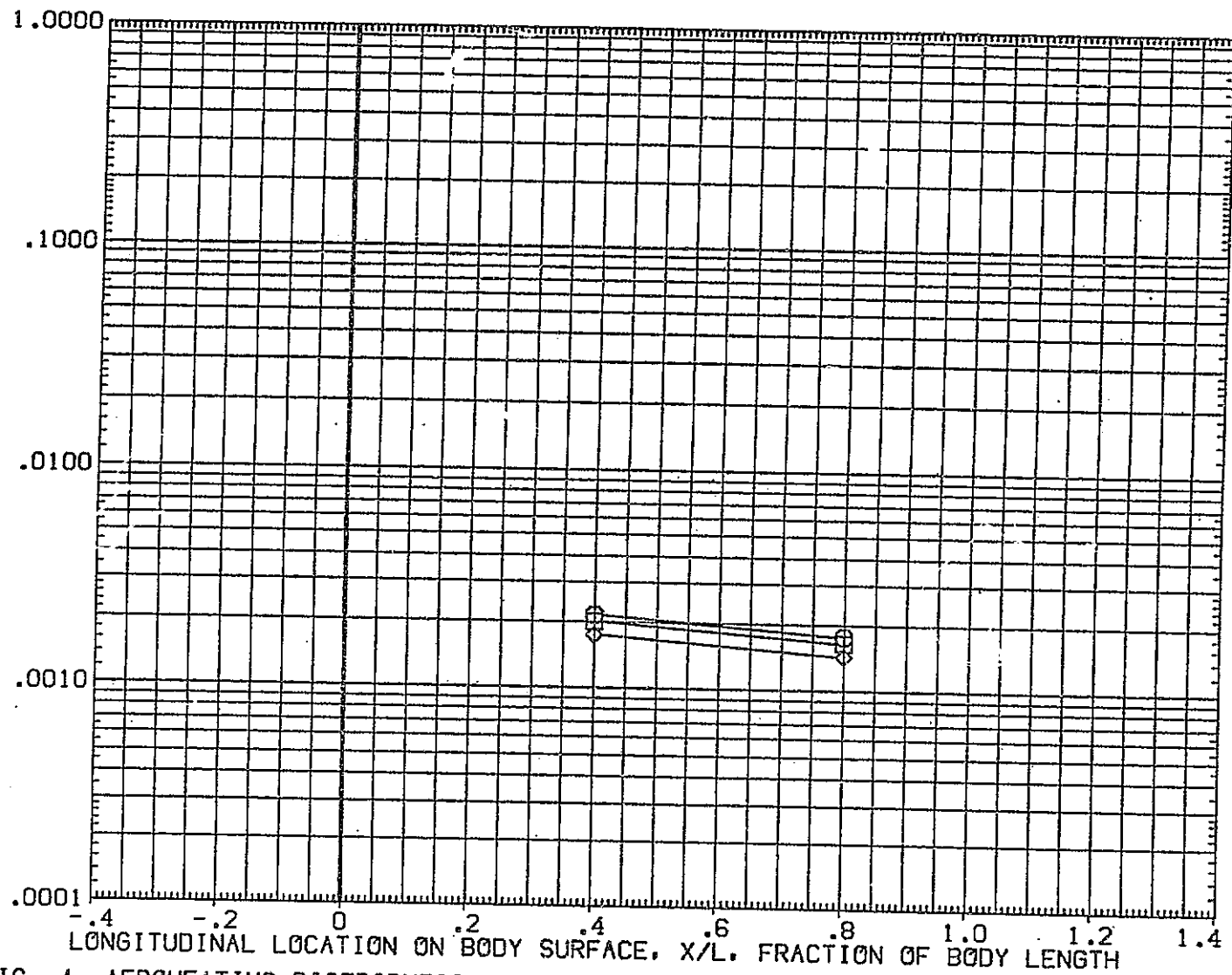
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF



IH19 T8

EXTERNAL TANK

(SQET07)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	67.500	.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	HACH	19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

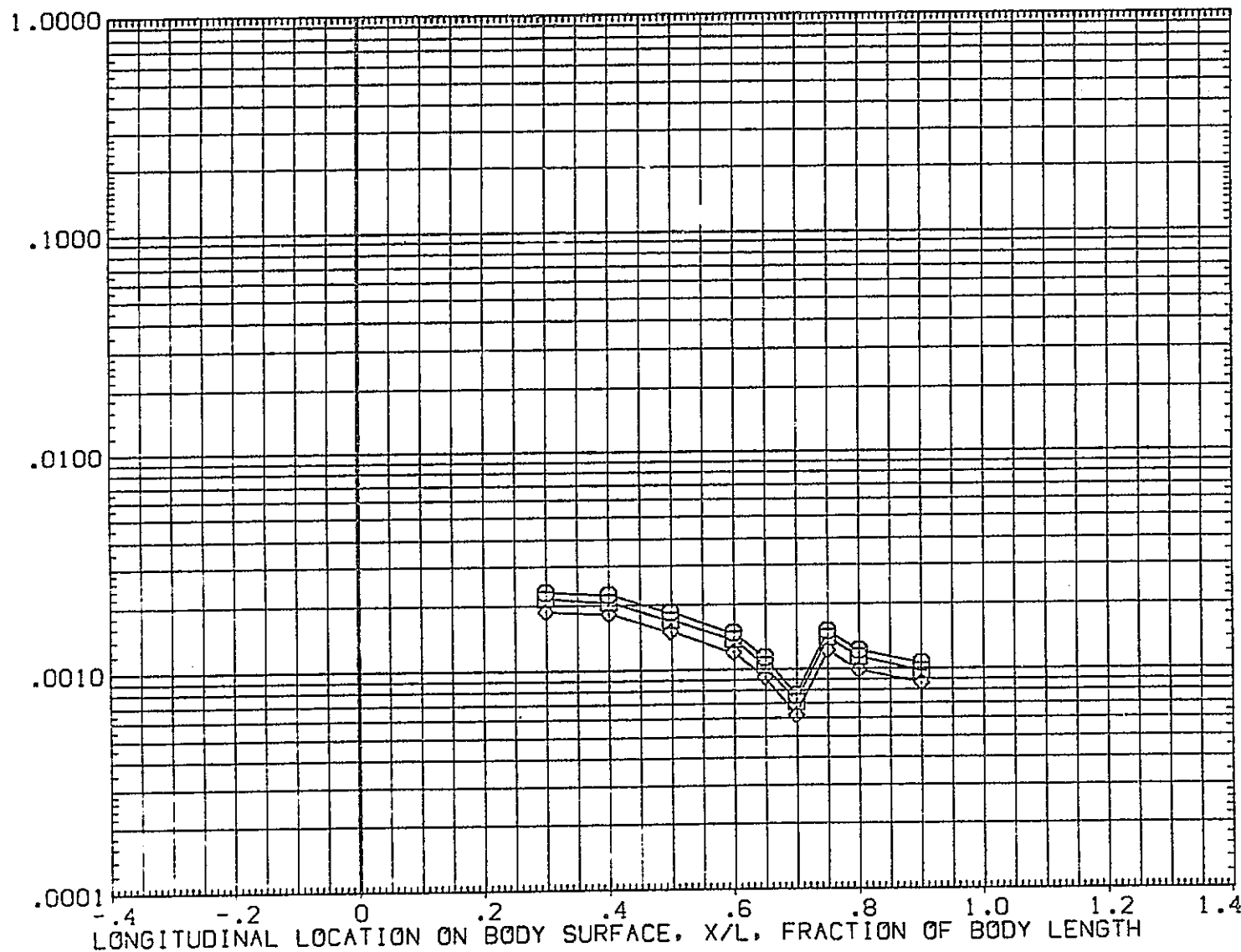


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

IH19 T8

EXTERNAL TANK

(SQET07)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	90.000	.000
□	.900		
□	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

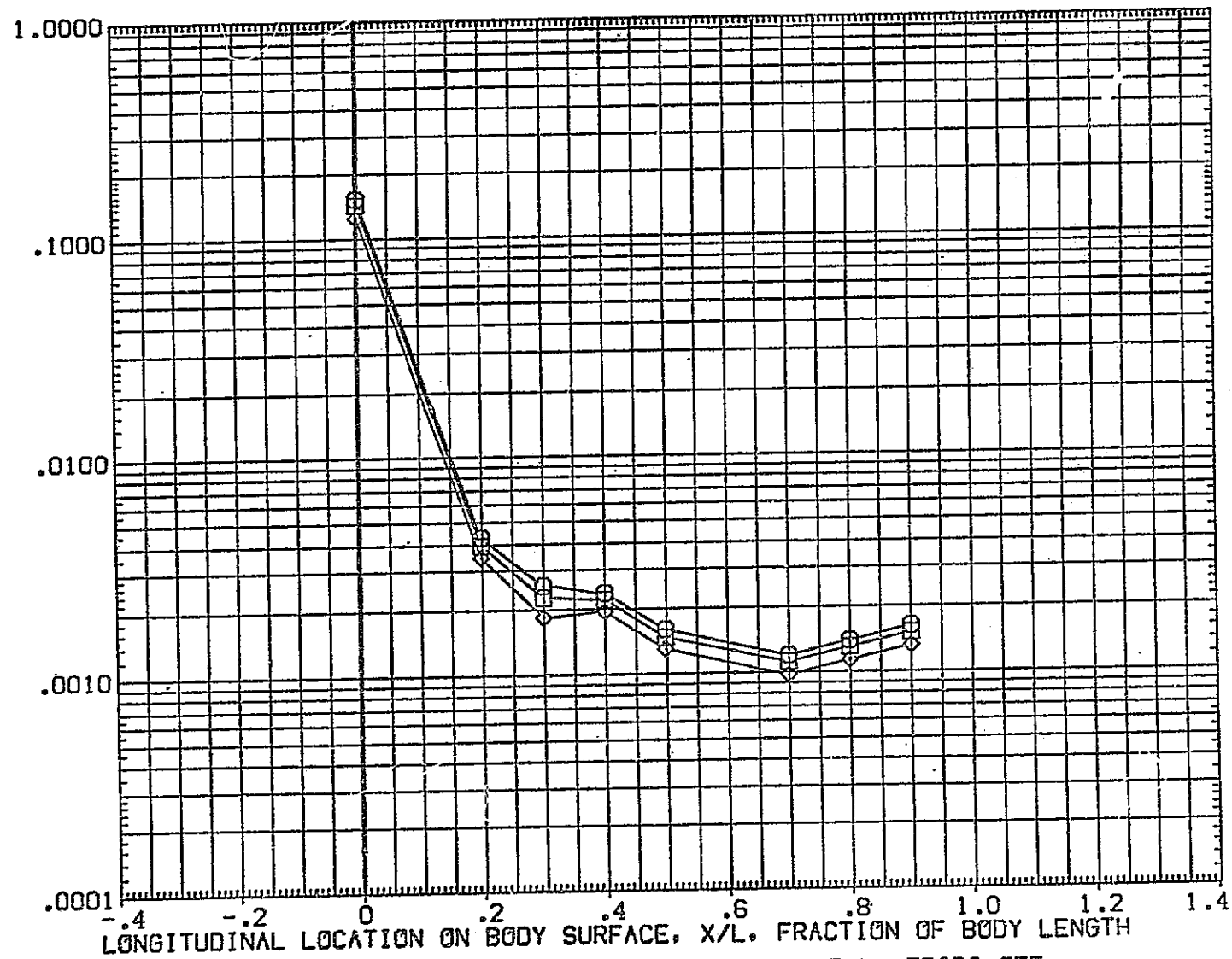


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

IH19 T8

EXTERNAL TANK

(SQETO7)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	112.500	.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

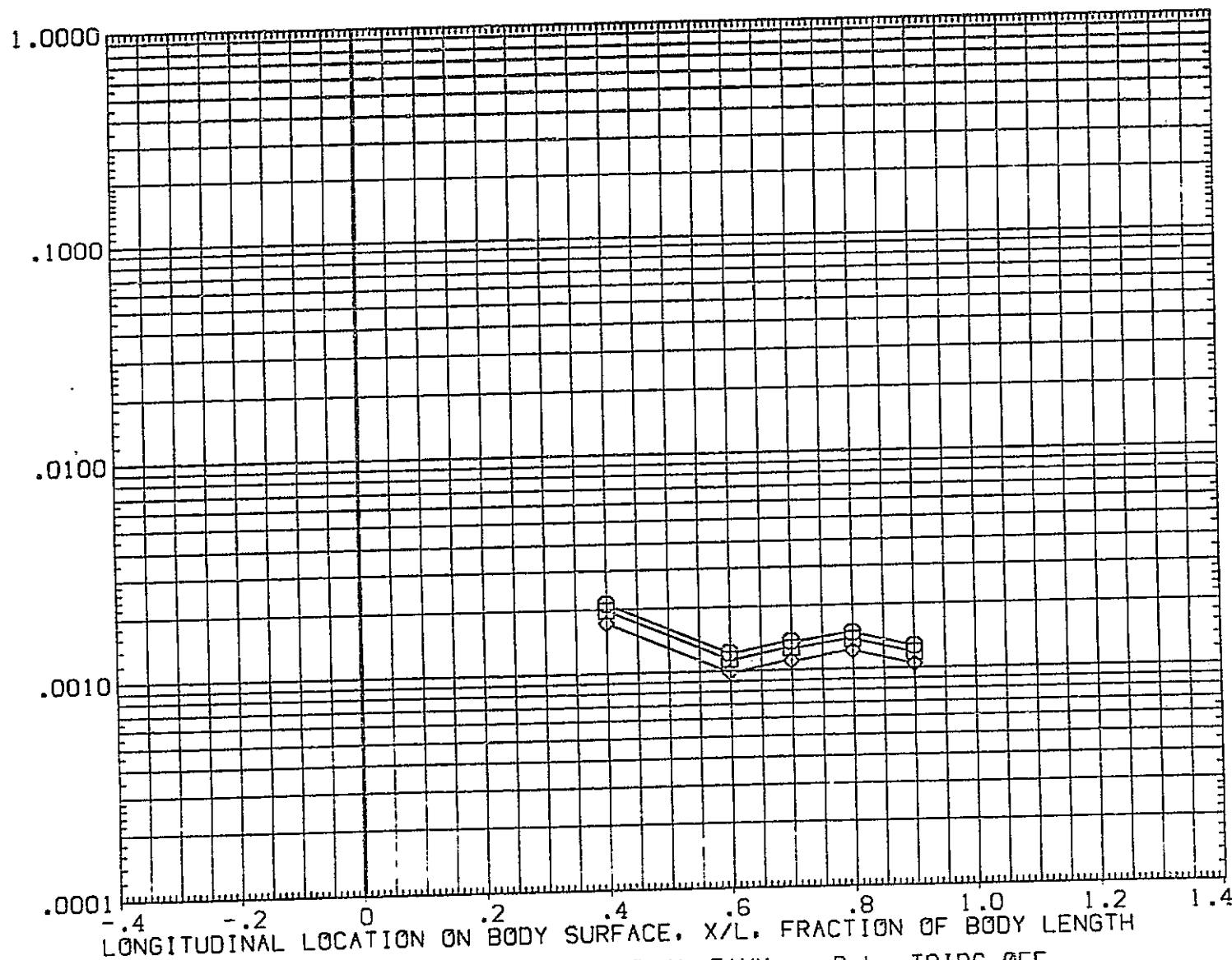
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

IH19 T8

EXTERNAL TANK

(SQET07)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	135.000	.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	HACH 19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

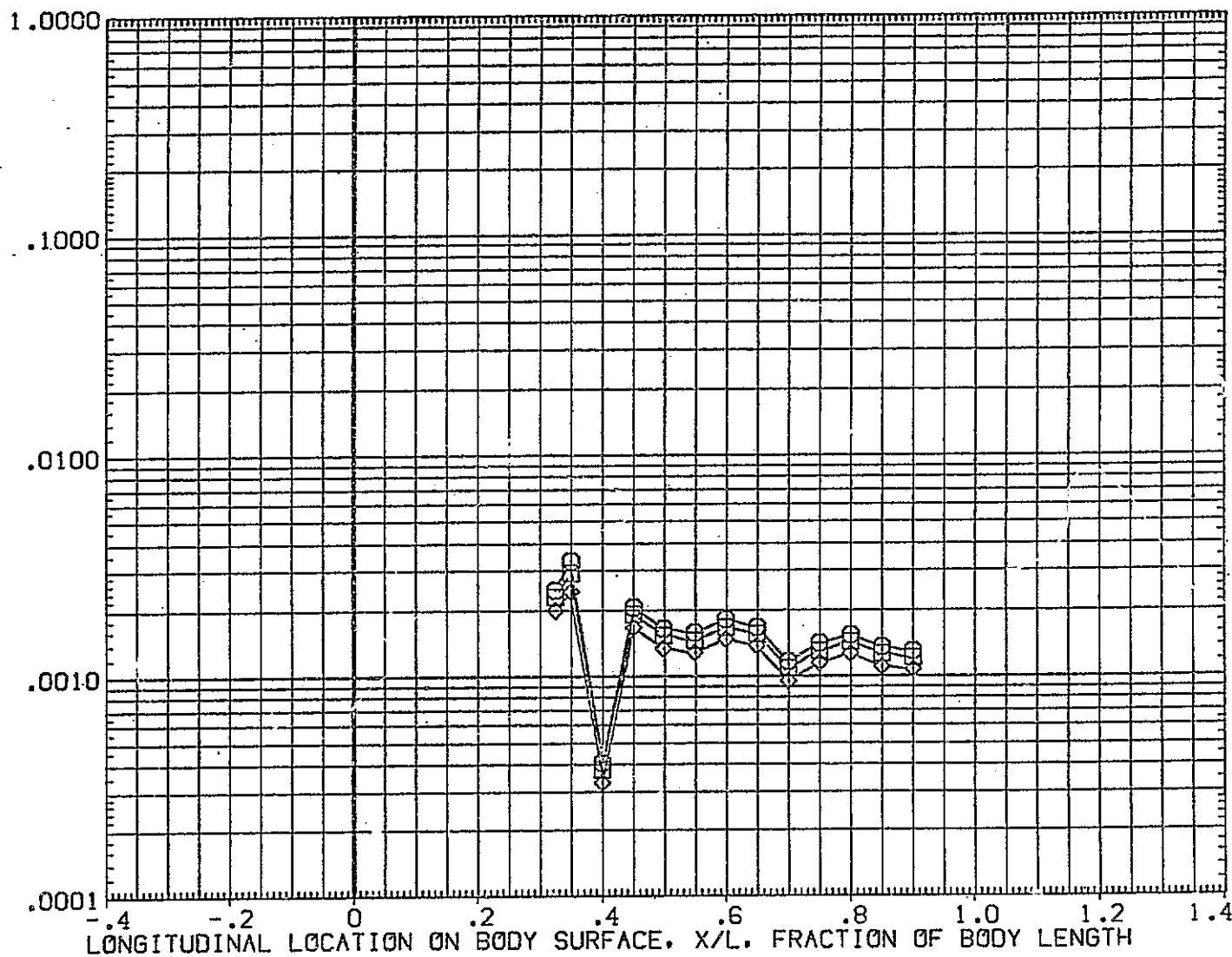


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR.



IH19 T8

EXTERNAL TANK

(SQET07)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	157.500	.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

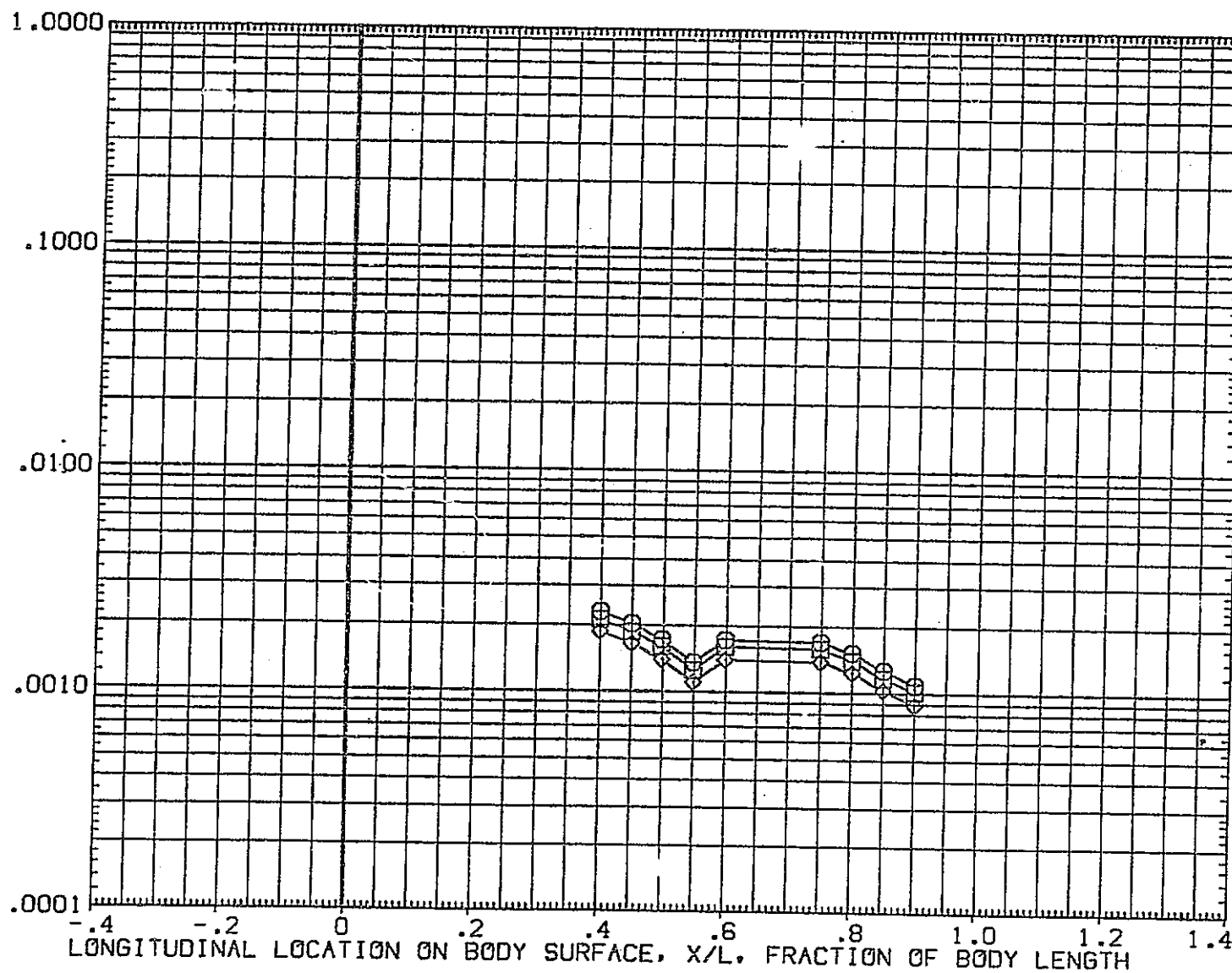
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

SYMBOL	MAN/HT	PHI	ALPHA
○	.850	180.000	.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

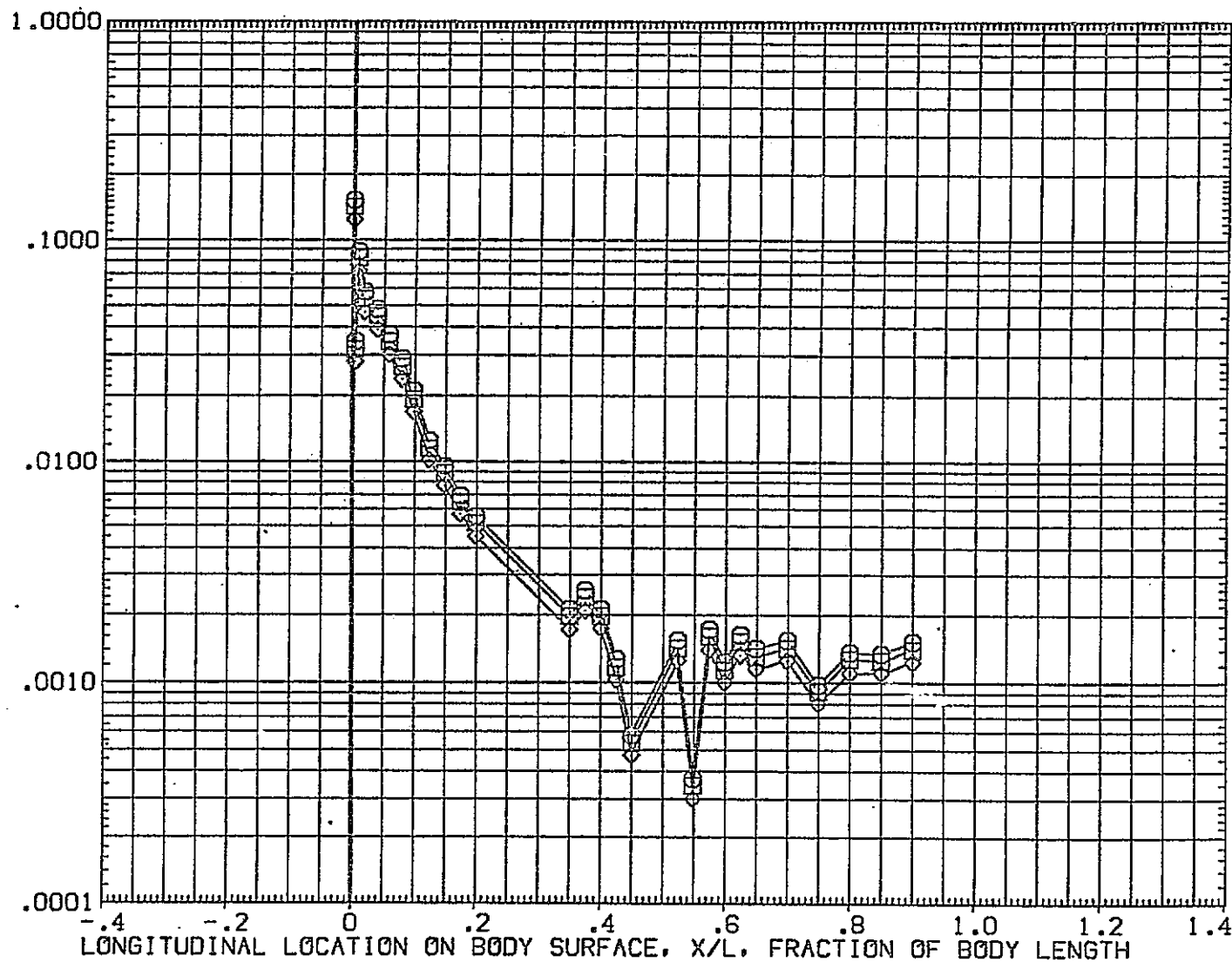
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF



IH19 T8

EXTERNAL TANK

(SQET07)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	.000	5.000
□	.900		
○	1.000		

PARAMETRIC VALUES			
BETA	.000	RM/L	.500
BLTRIP	.000	MACH	19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS. H/HREF

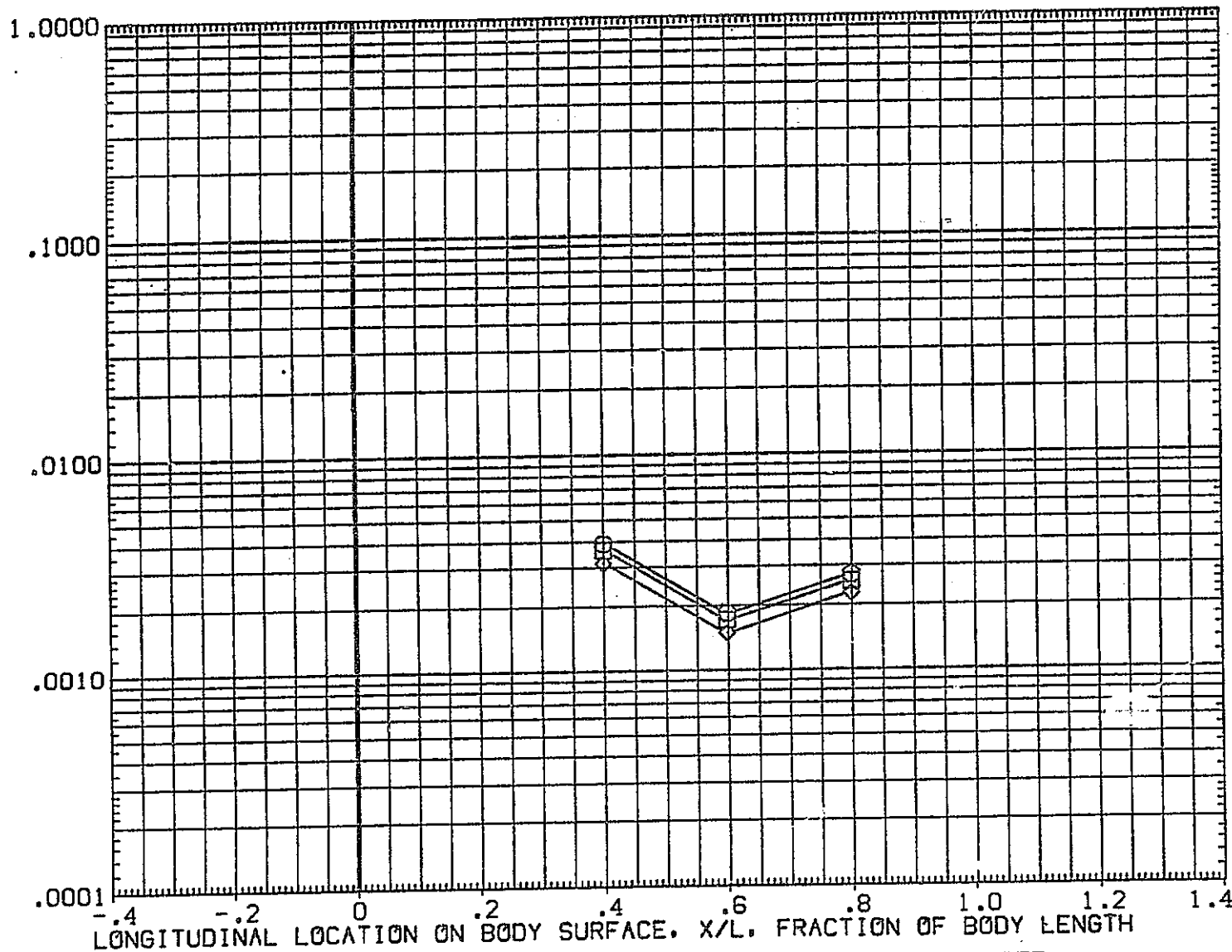


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	45.000	5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

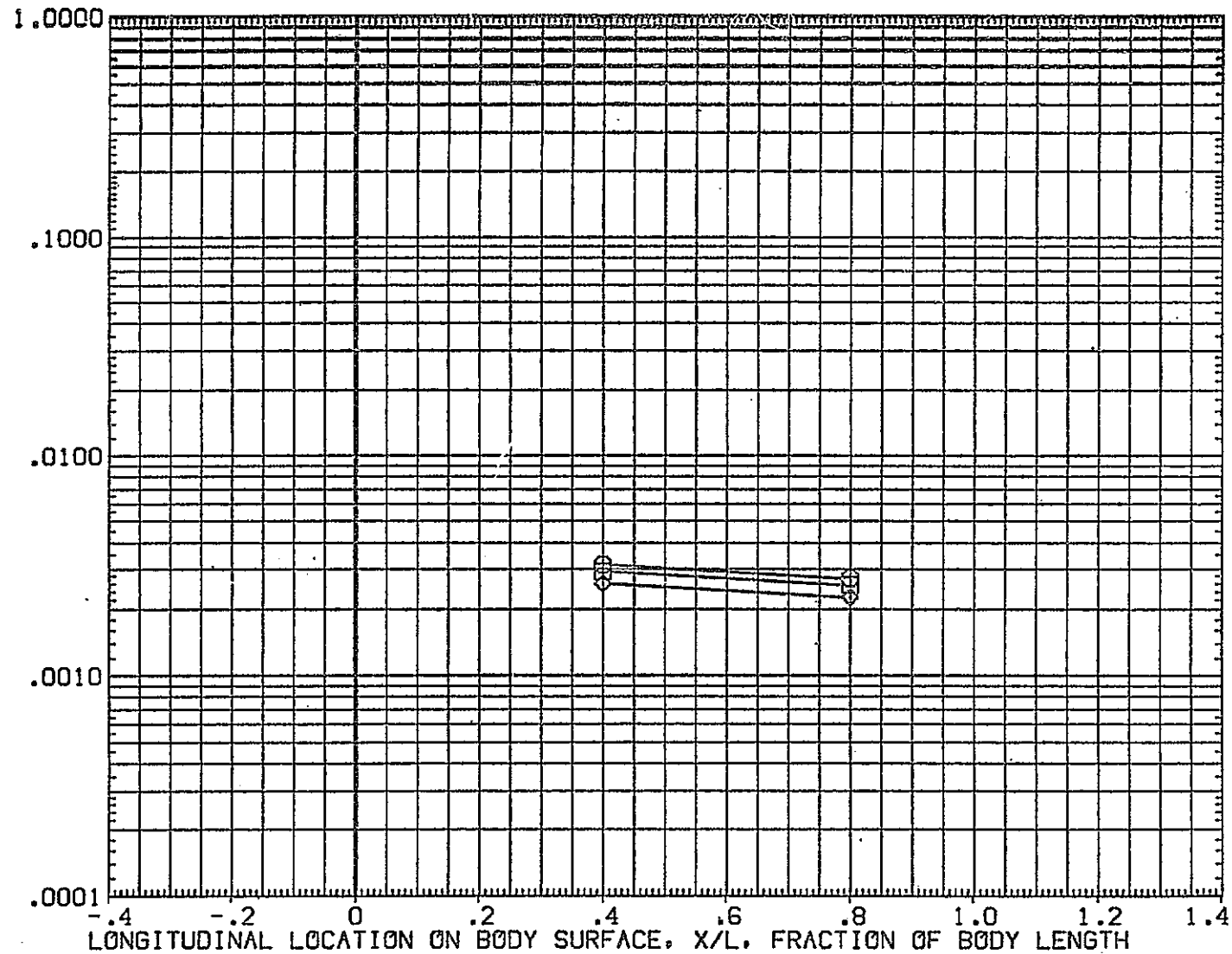
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $h/h_{REF}$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR





IH19 T8

EXTERNAL TANK

(SQET07)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	67.500	5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RA/L
BLTRIP	.000	MACH
		.500
		19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

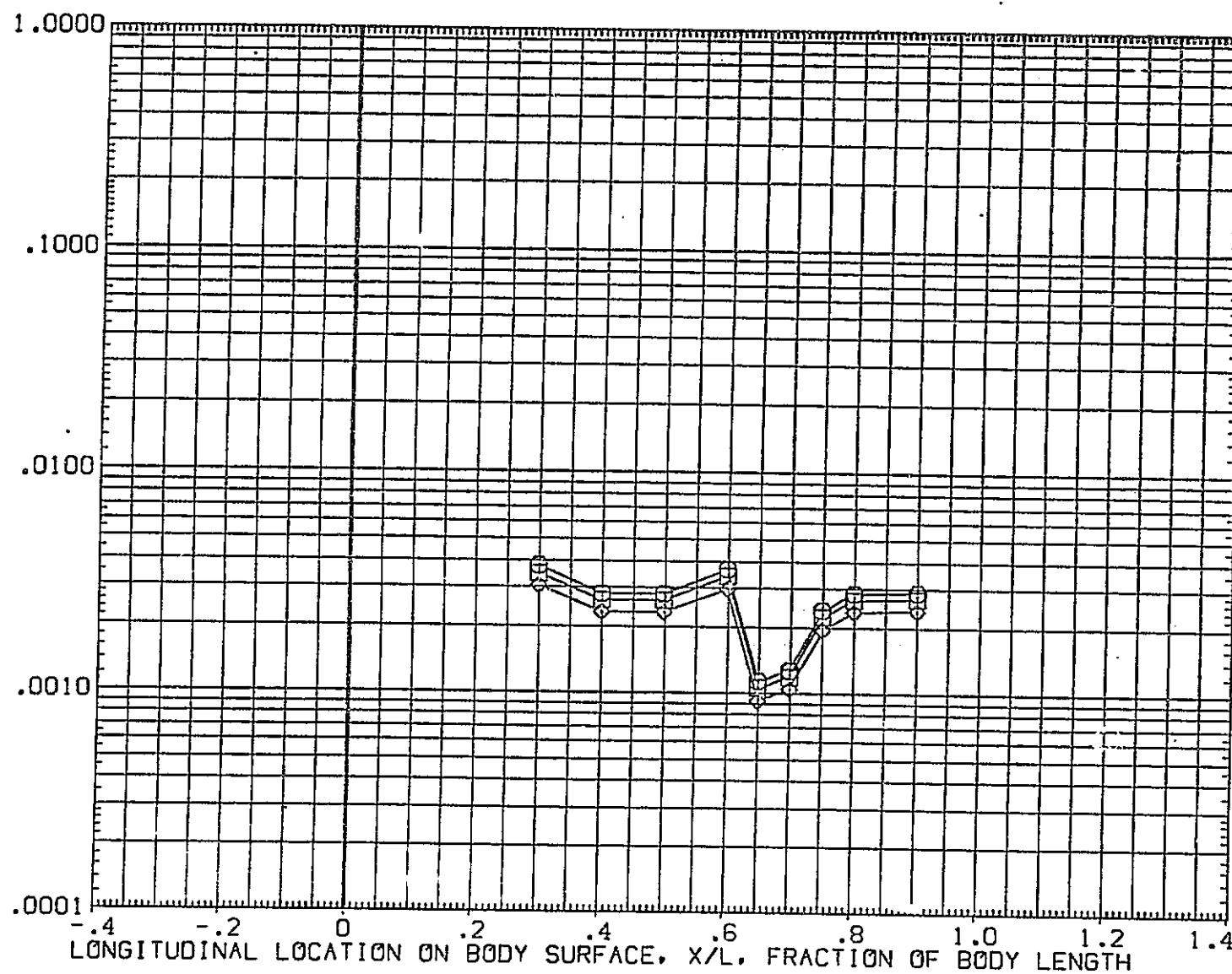


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

IH19 T8

EXTERNAL TANK

(SQET07)

SYMBOL	HAW/HT	PHI	ALPHA
□	.850	90.000	5.000
◇	.900		
	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	HACH	19.800

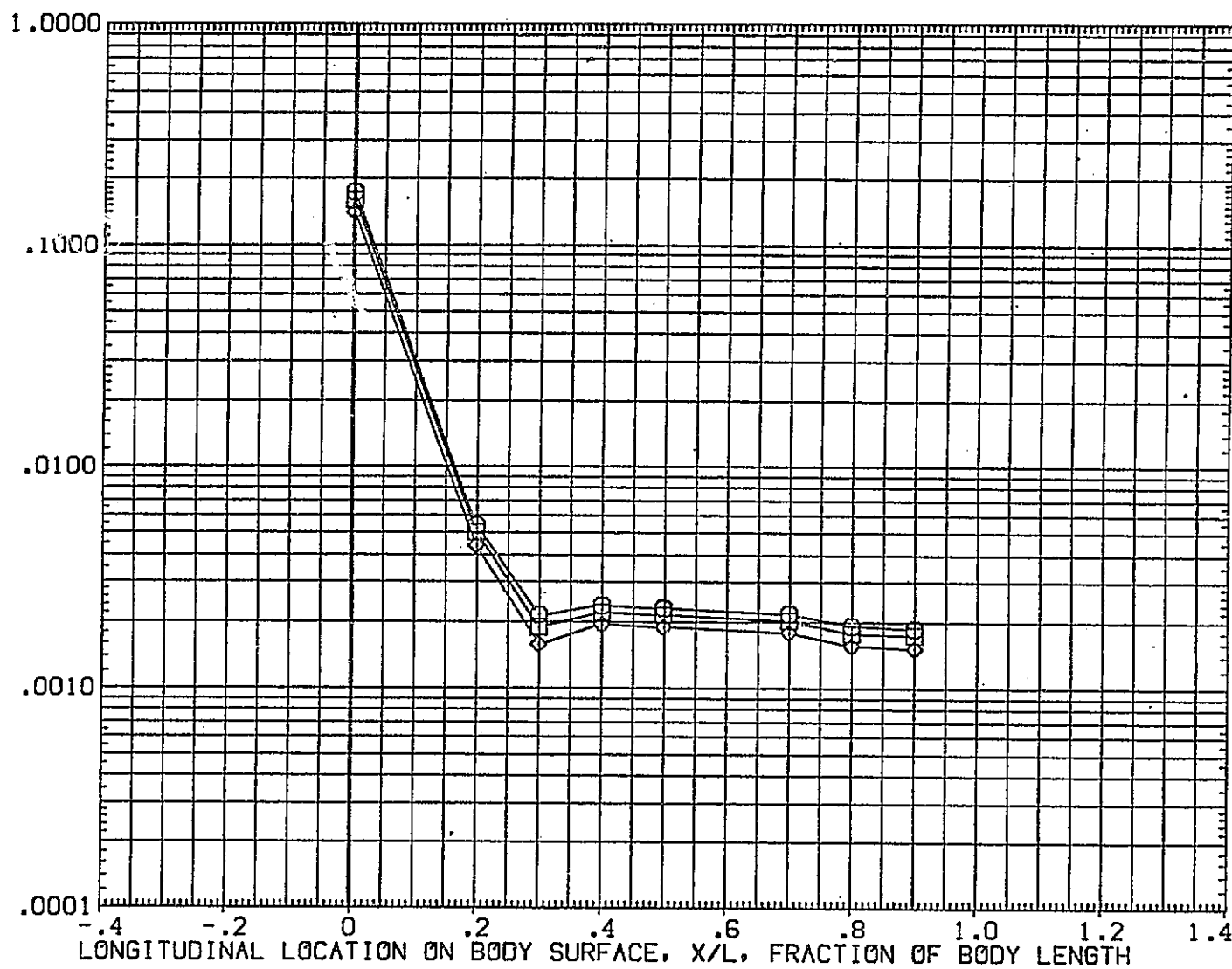
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

IH19 T8

EXTERNAL TANK

(SQET07)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	112.500	5.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

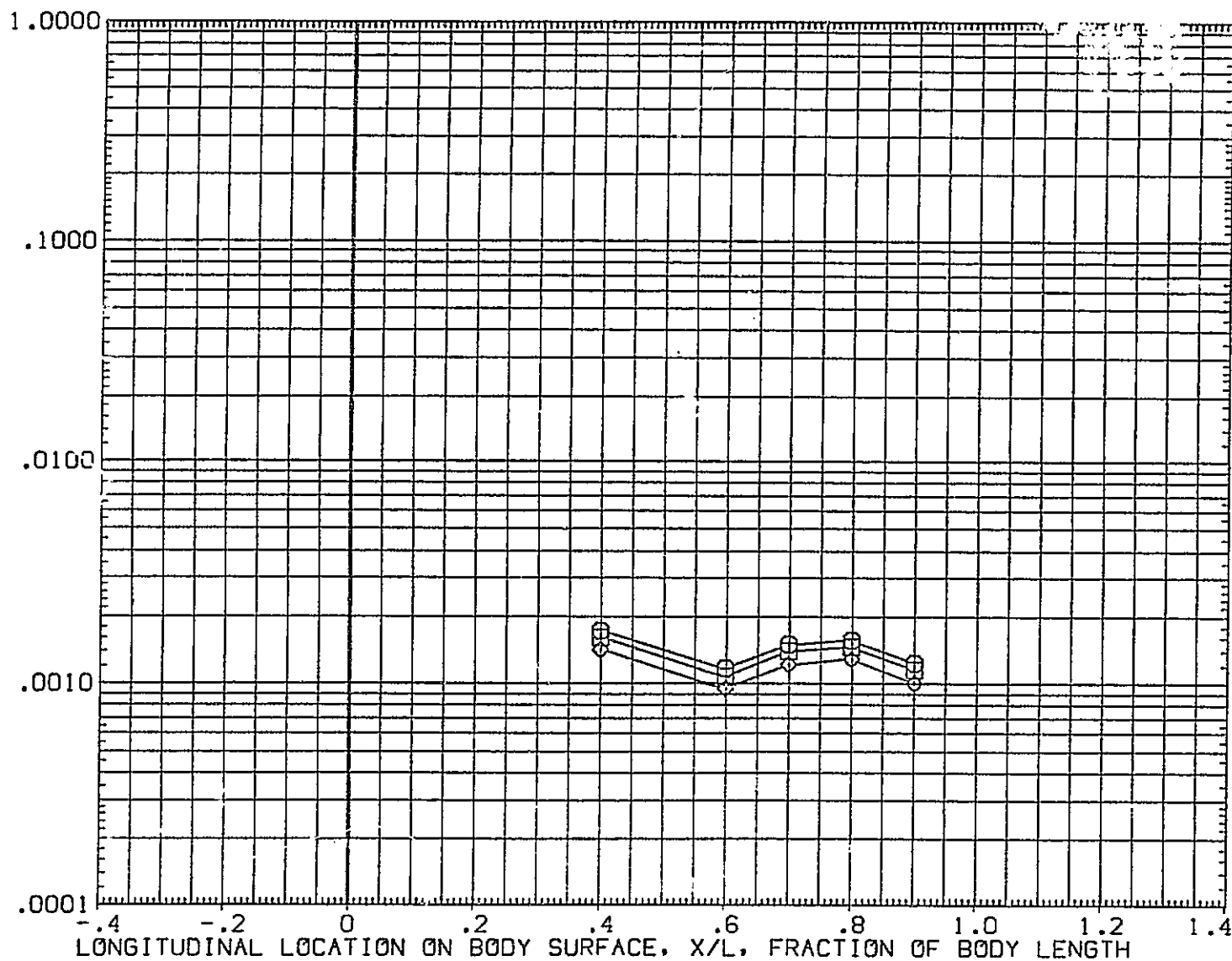
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

IH19 T8

EXTERNAL TANK

(SQET07)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	135.000	5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	HACH 19.800

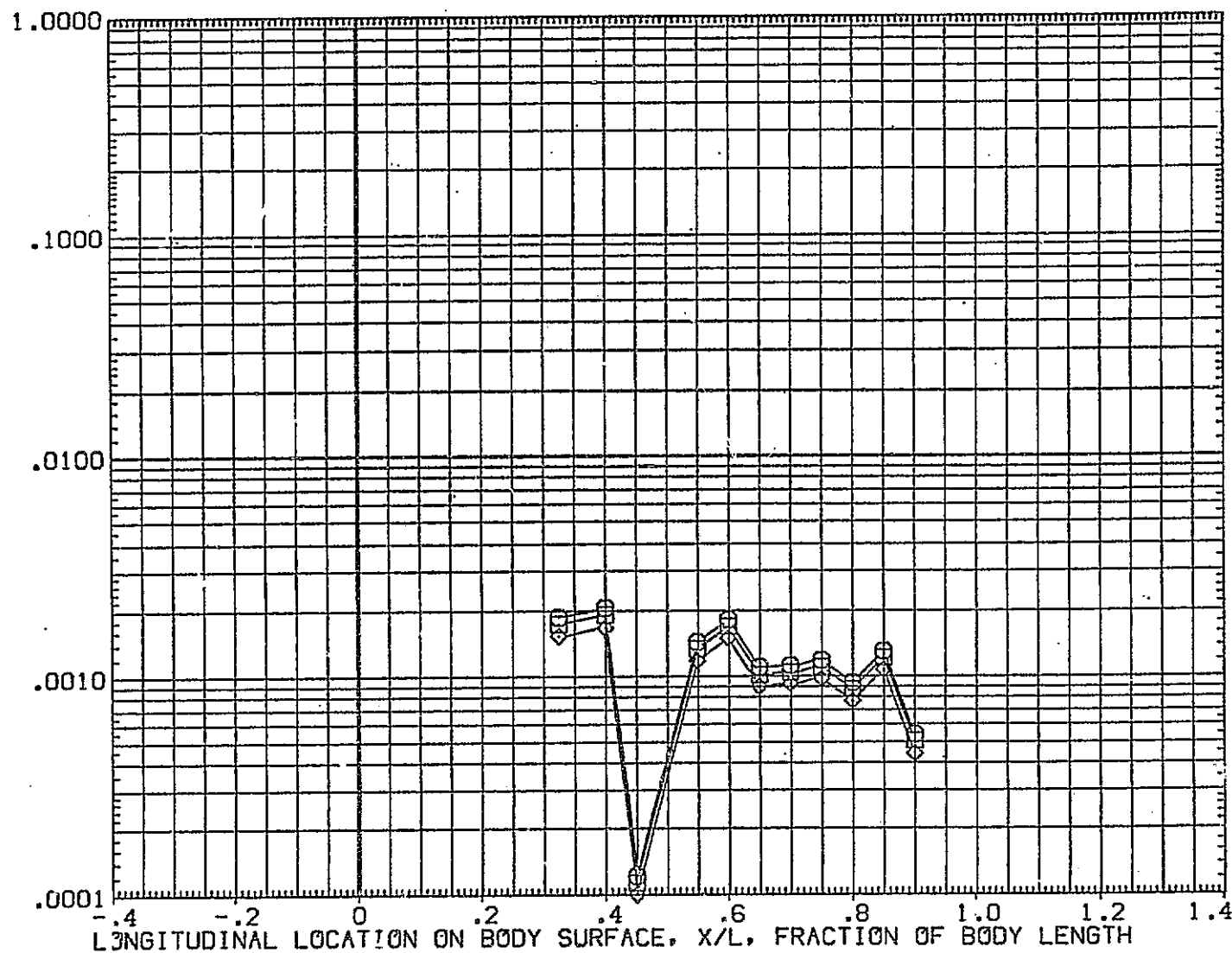
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

IH19 T8

EXTERNAL TANK

(SQET07)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	157.500	5.00%
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

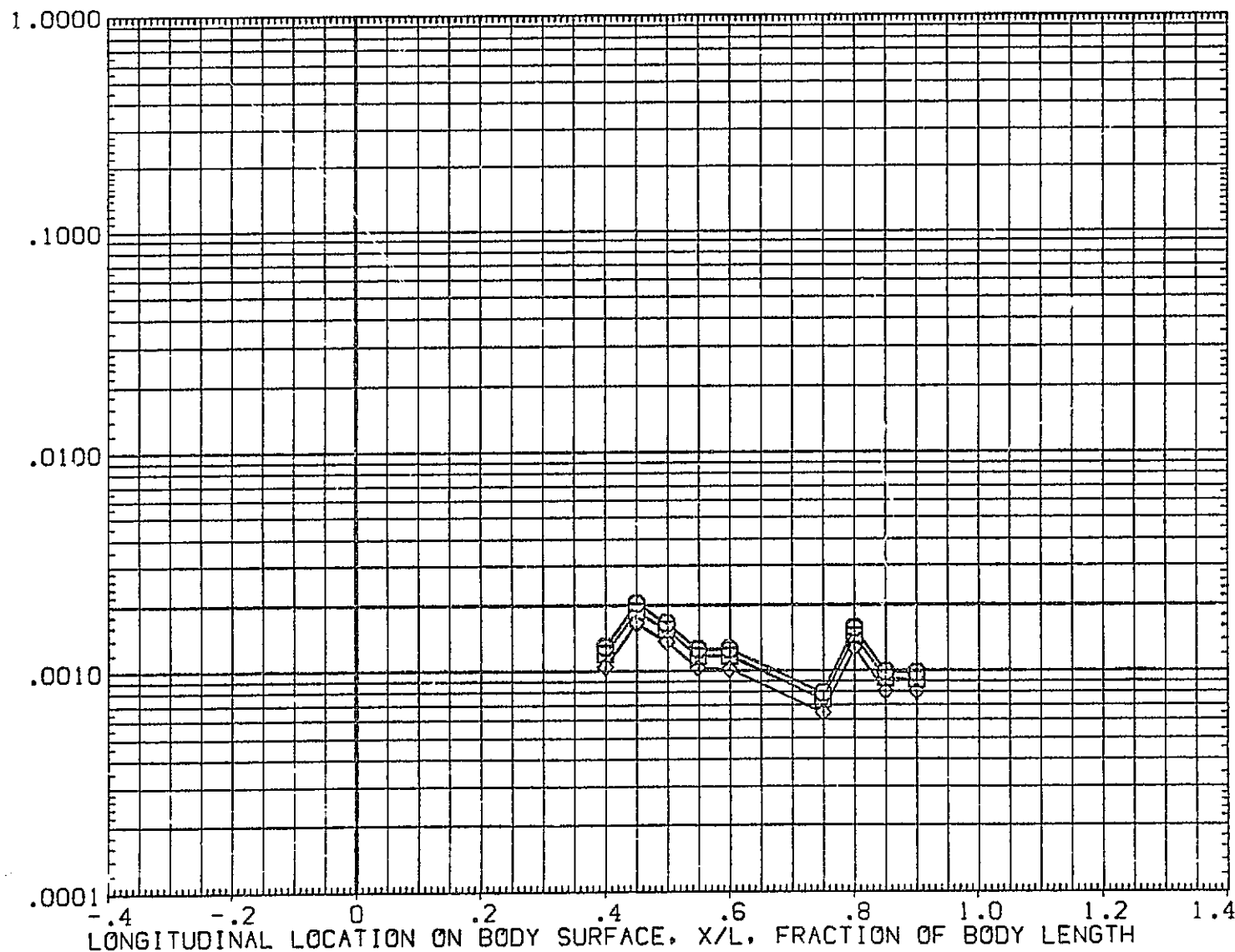


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	180.000	5.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.900	RN/L .500
BLTRIP	.000	MACH 19.800

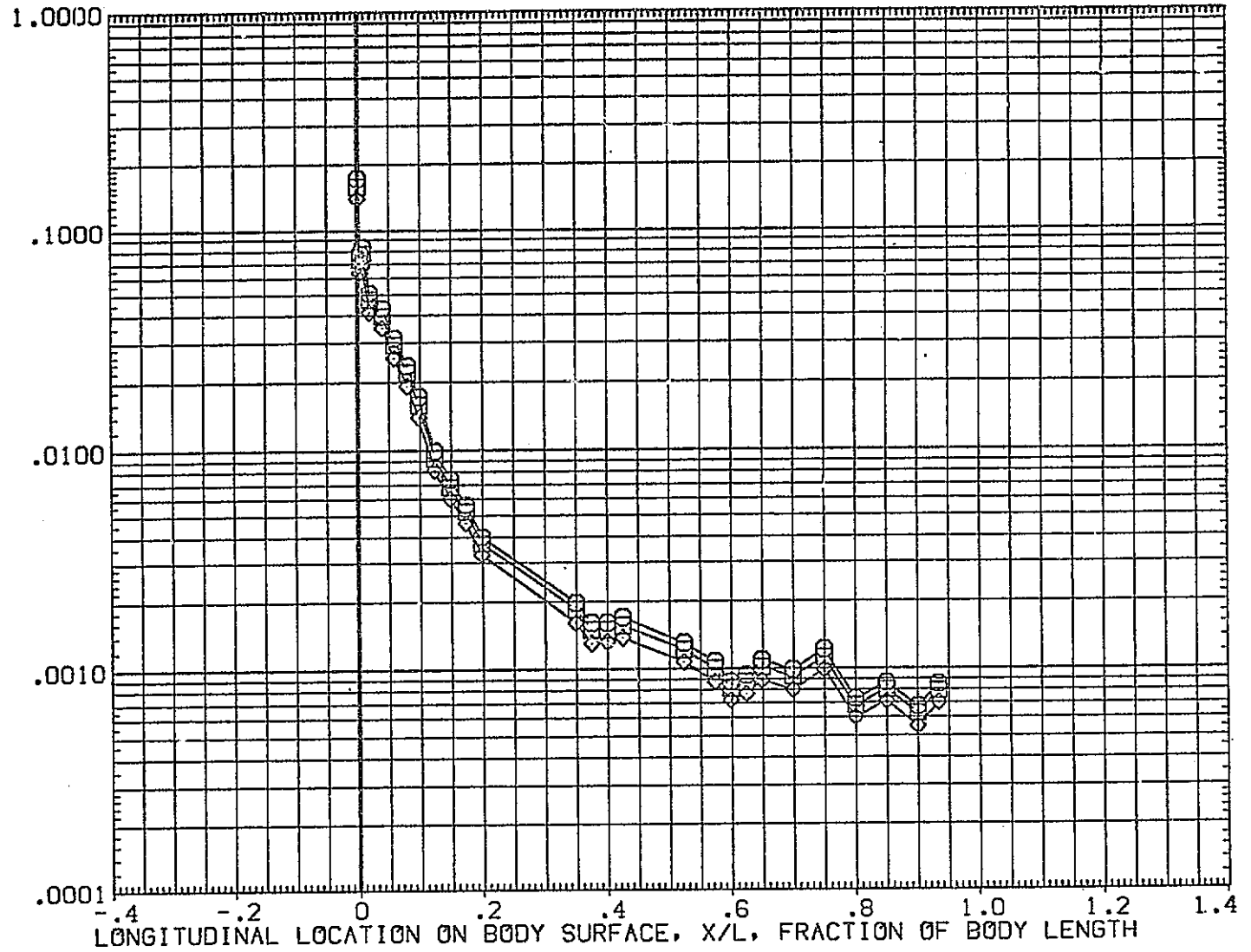
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $h/h_{REF}$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

IH19 T8

EXTERNAL TANK

(SQET07)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	.000	10.000
□	.900		
□	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

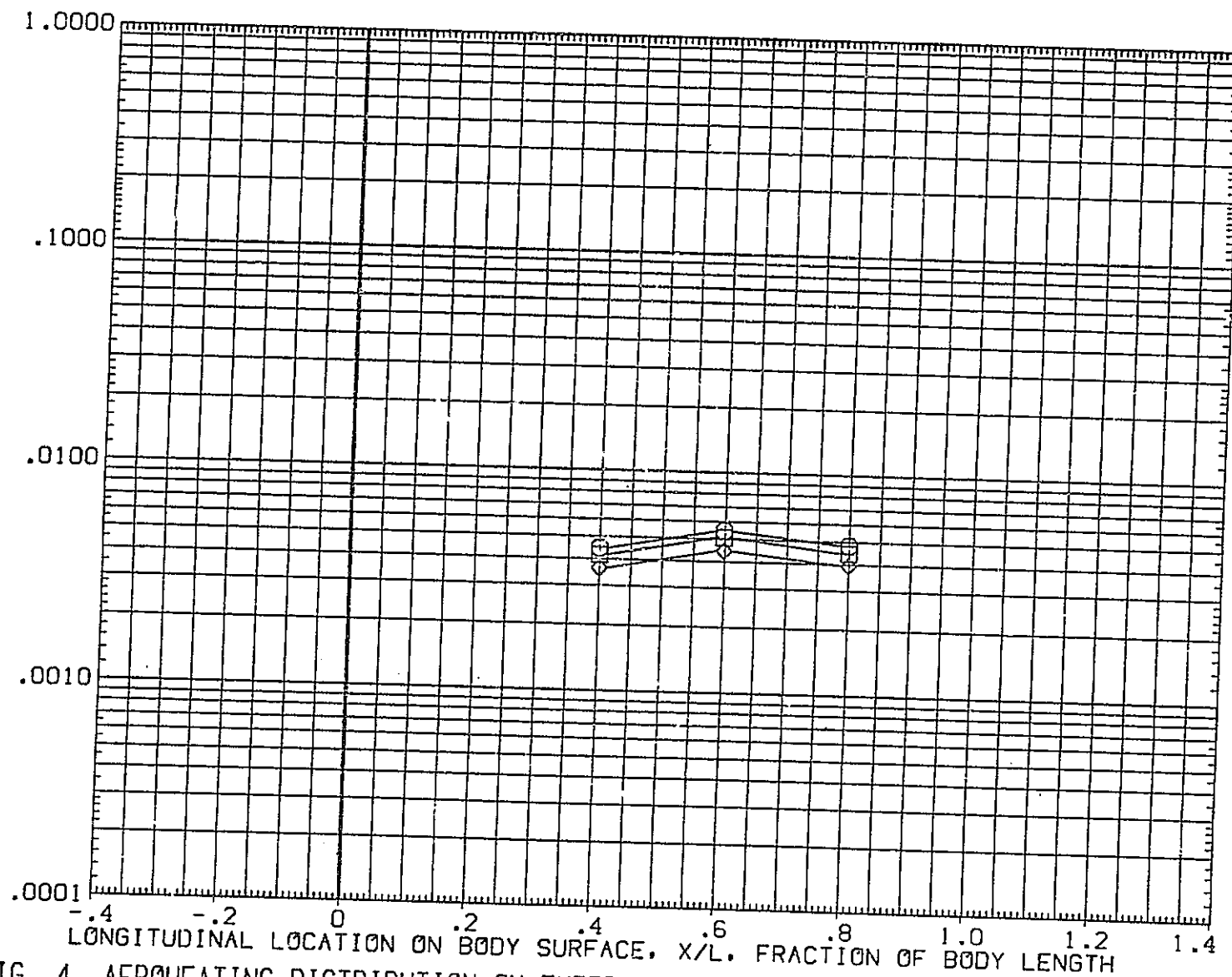


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

IH19 T8

EXTERNAL TANK

(SQET07)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	45.000	10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

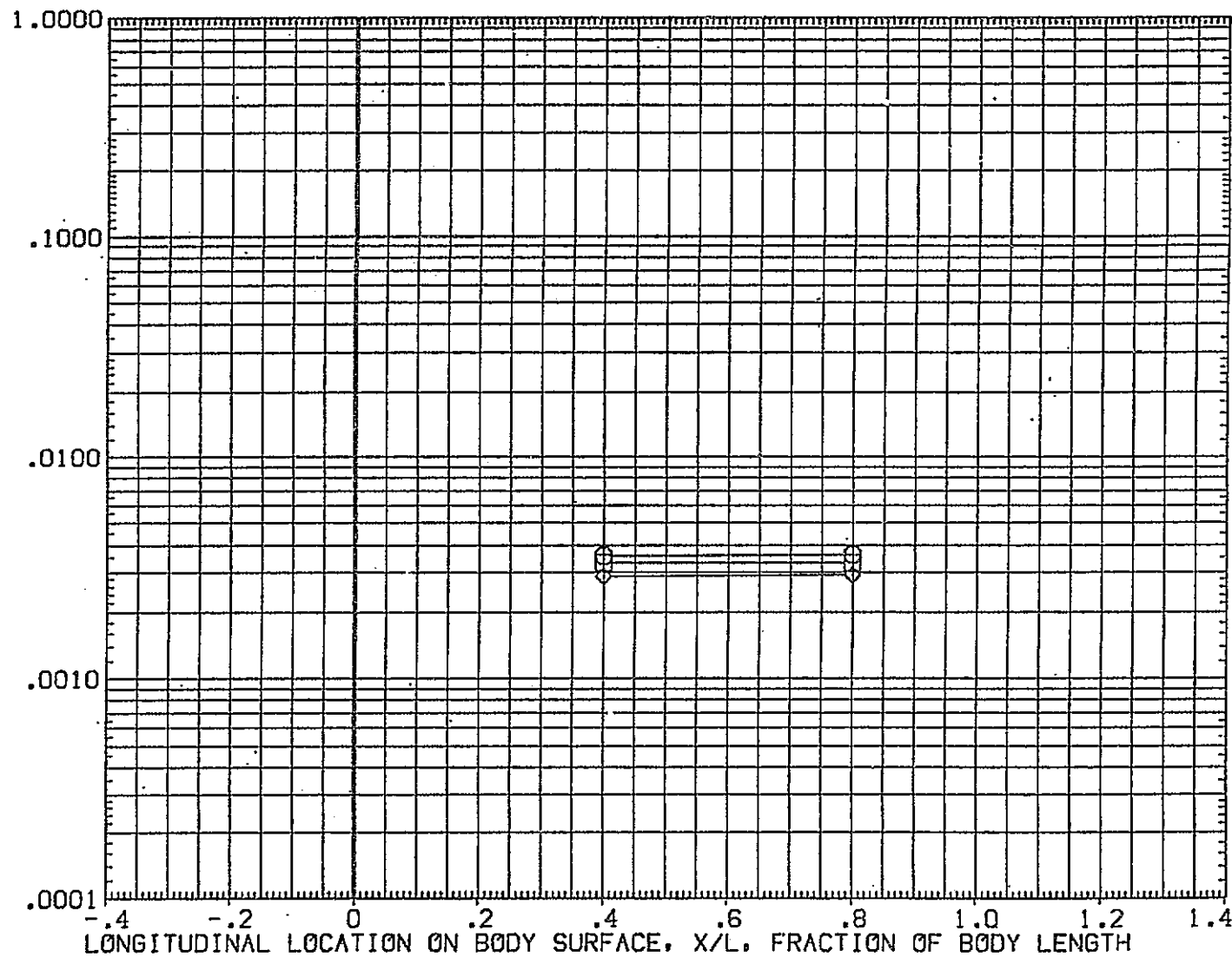


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF



IH19 T8

## EXTERNAL TANK

(SQETO7)

SYMBOL

HAW/HT

PHI

ALPHA

BETA

PARAMETRIC VALUES

.000

RN/L

.500

BLTRIP

.000

MACH

19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

◇ □ ○

.850  
.900  
1.000

67.500

10.000

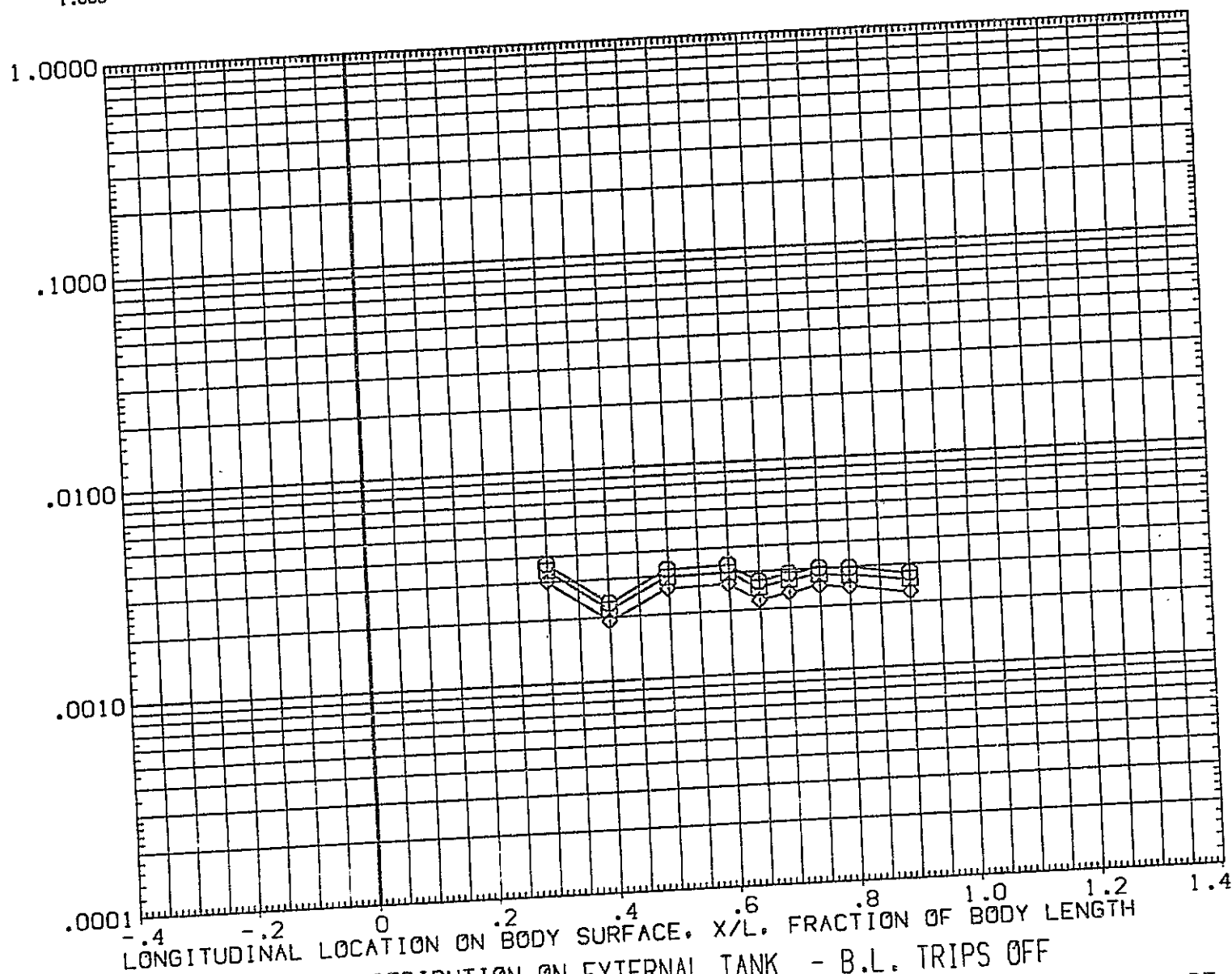


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

IH19 T8

EXTERNAL TANK

(SQET07)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	90.000	10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	HACH	19.800

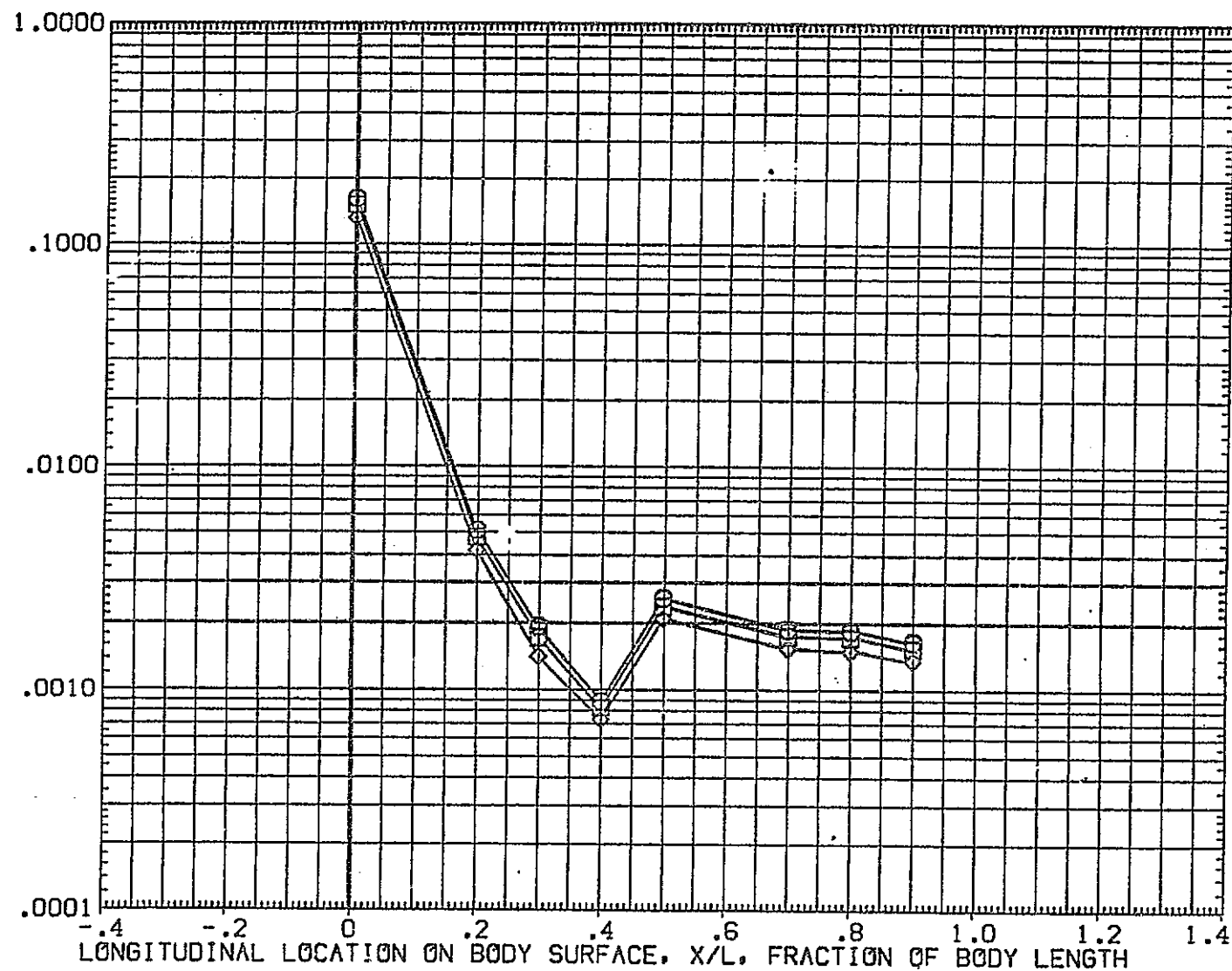
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

IH19 T8

EXTERNAL TANK

(SQET07)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	112.500	10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

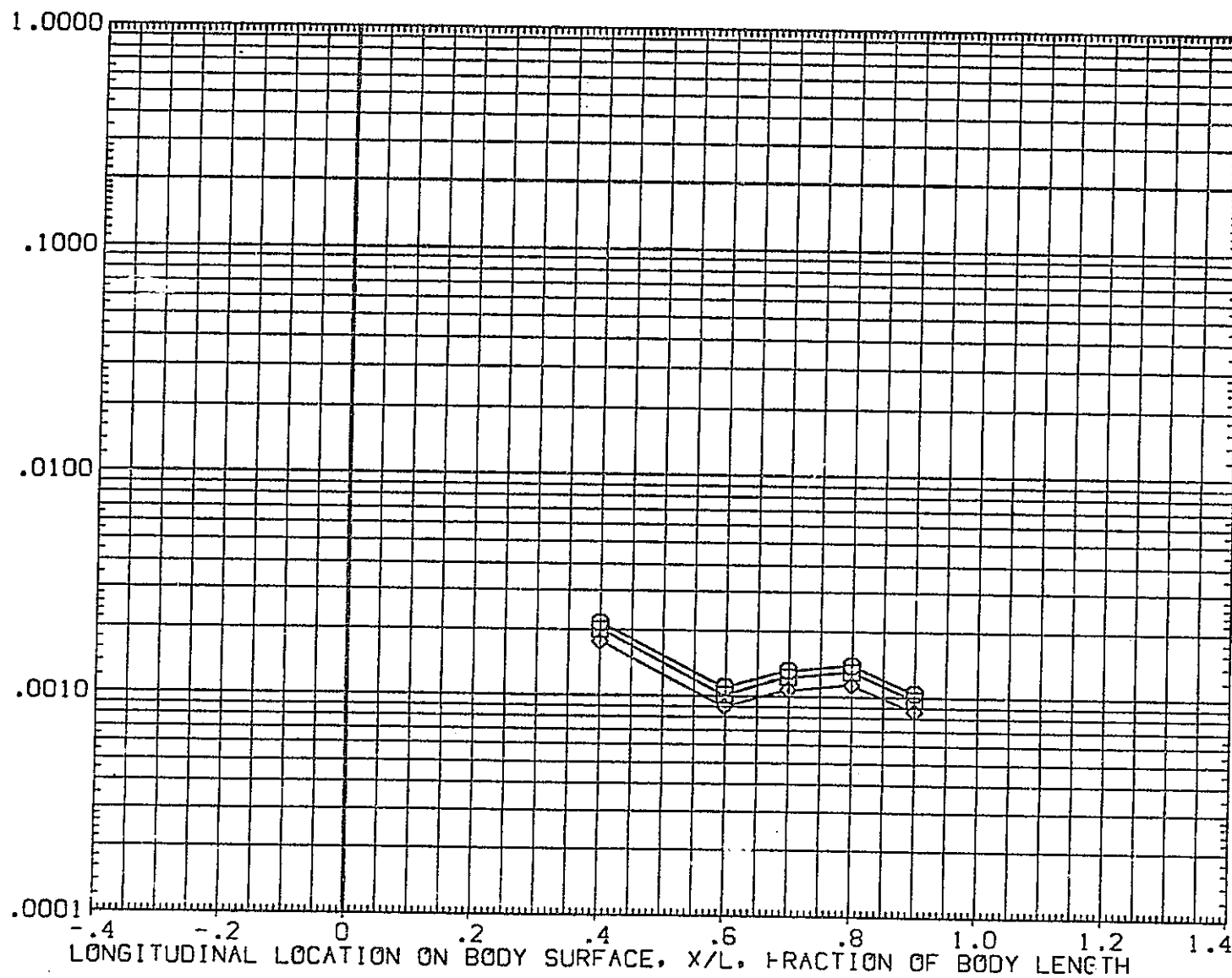


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

IH19 T8

EXTERNAL TANK

(SQET07)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	135.000	10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

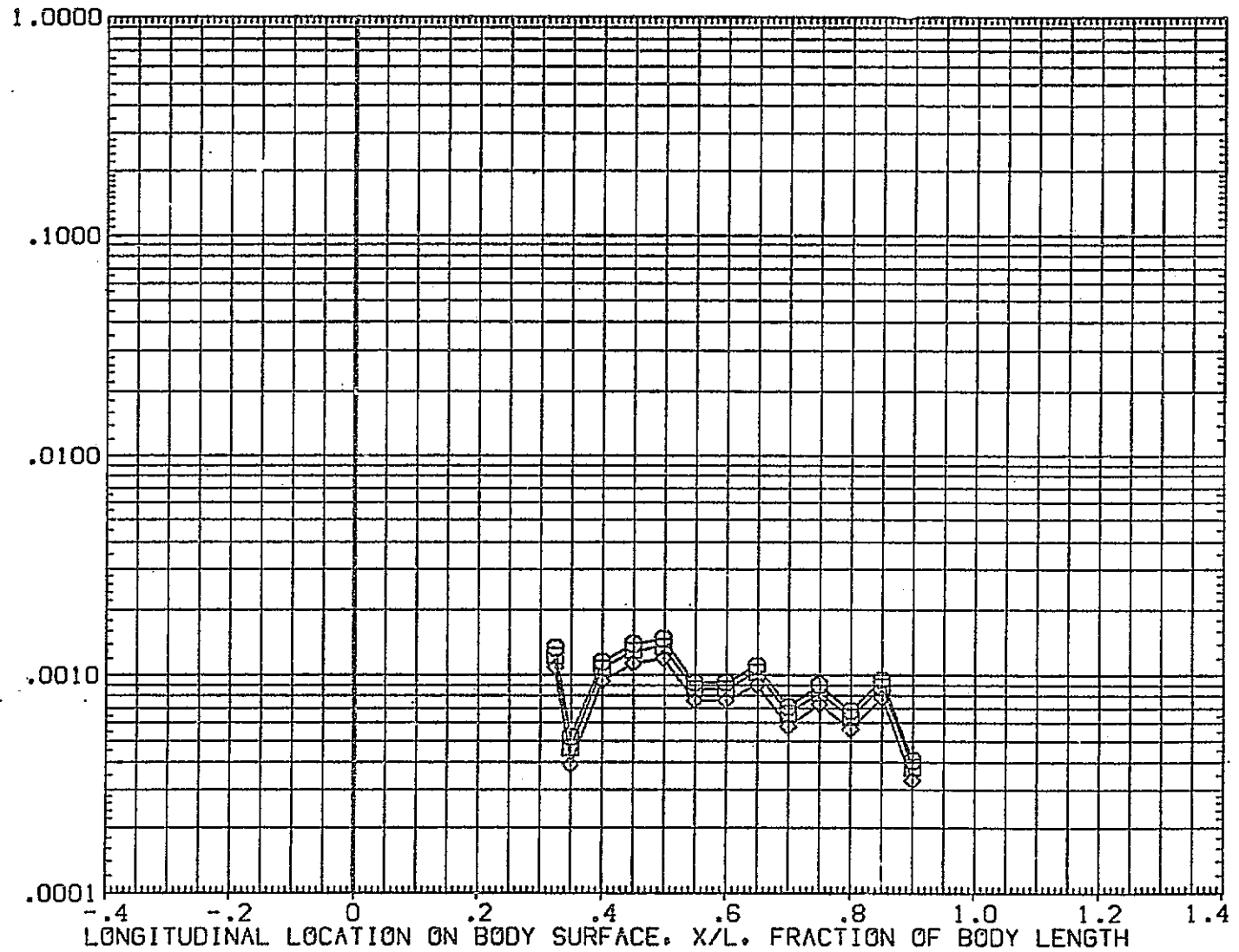
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

IH19 T8

EXTERNAL TANK

(SQET07)

SYMBOL	HAW/HT	PHI	ALPHA
□	.850	157.500	10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	MACH	19.800

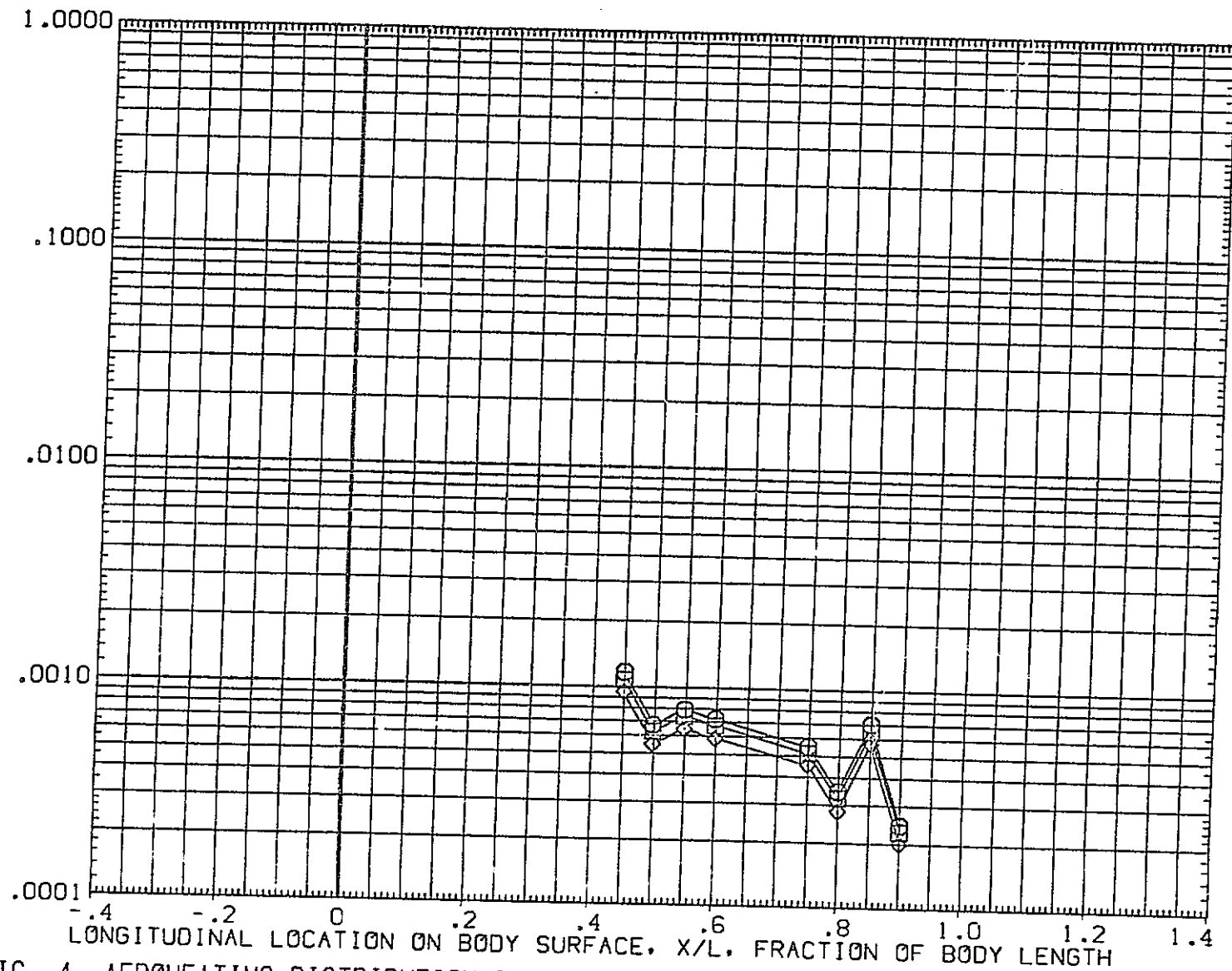
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

IH19 T8

EXTERNAL TANK

(SQET07)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	180.000	10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

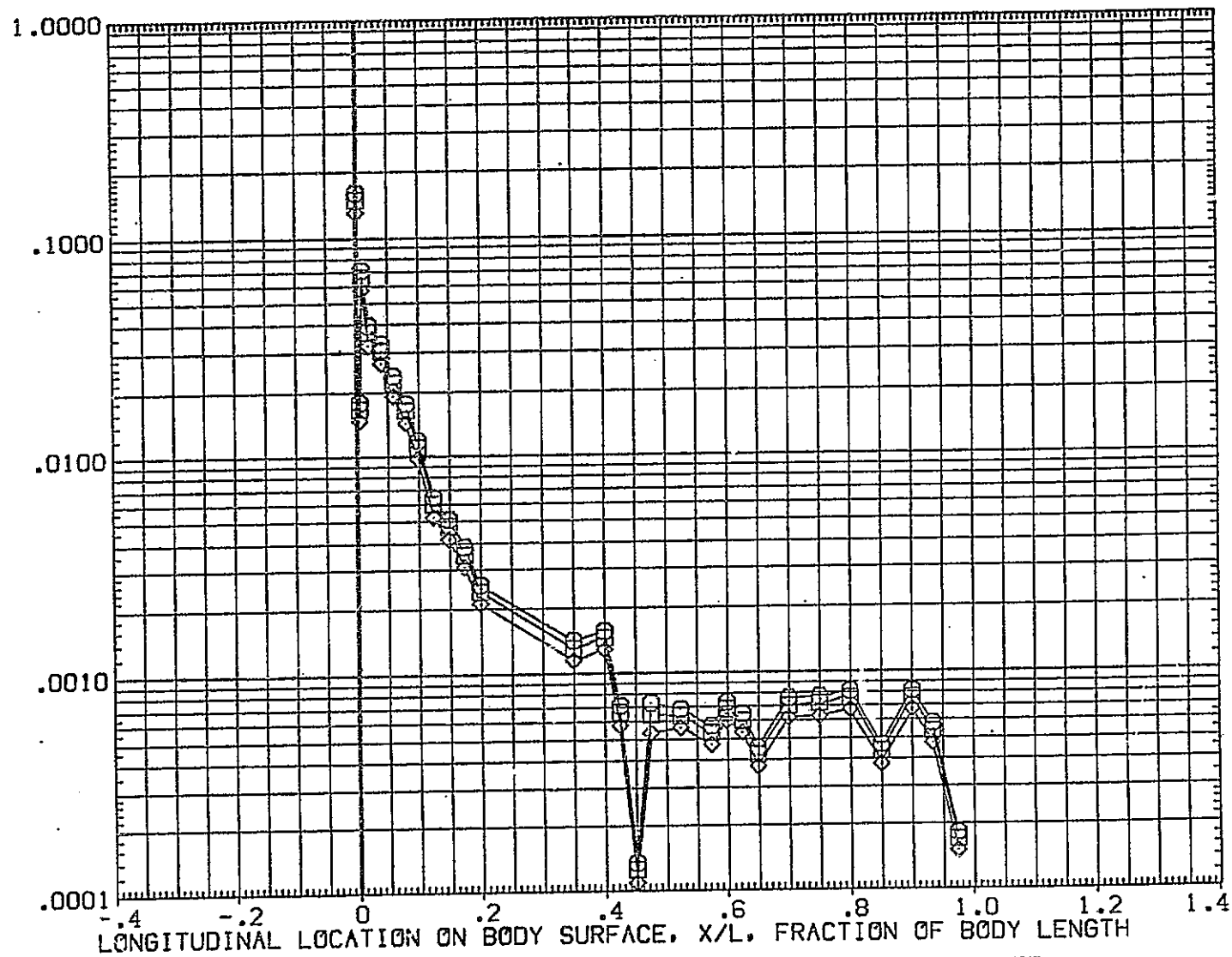
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $h/h_{REF}$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

IH19 B22C7F5M4V7W111 T8 EXTERNAL TANK

(SQETO2)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	.000	-10.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
MACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

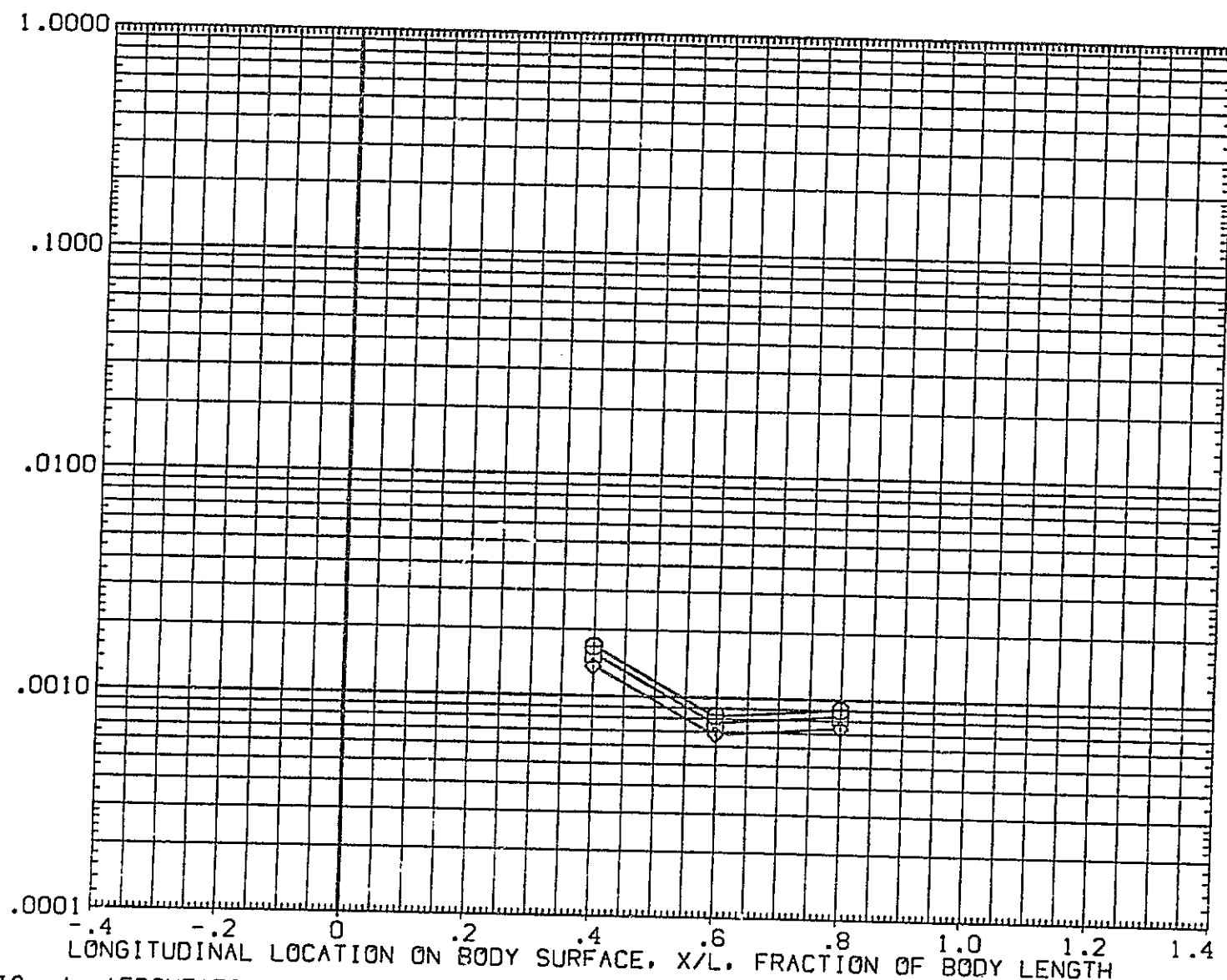


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

SYMBOL	HAW/HT	PHI	ALPHA
□	.850	45.000	-10.000
◇	.900		
	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
MACH	19.800	

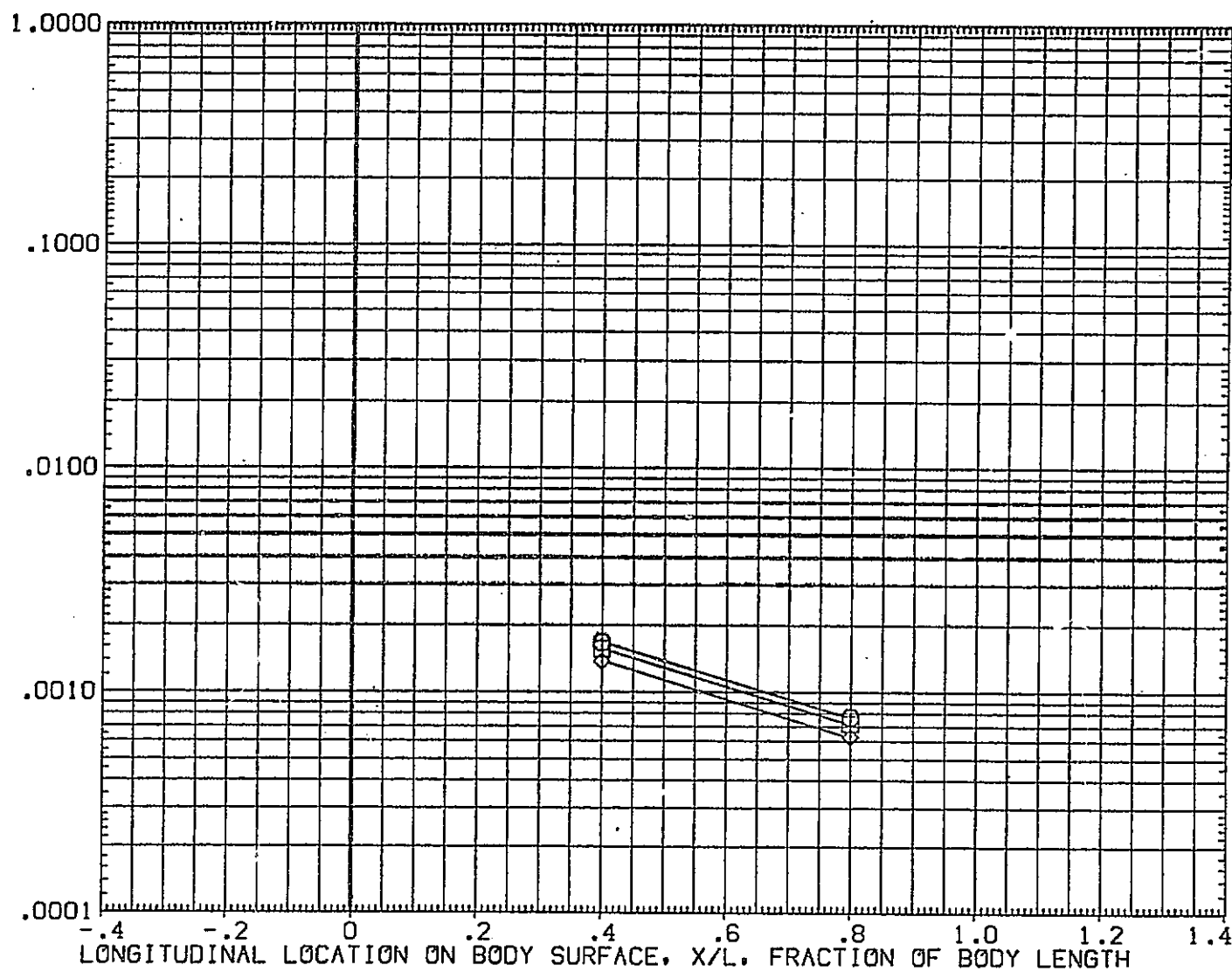
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF



IH19 B22C7F5M4V7W111 T8 EXTERNAL TANK

(SQET02)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	67.500	-10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	DELTAH	.175
MACH	19.800		

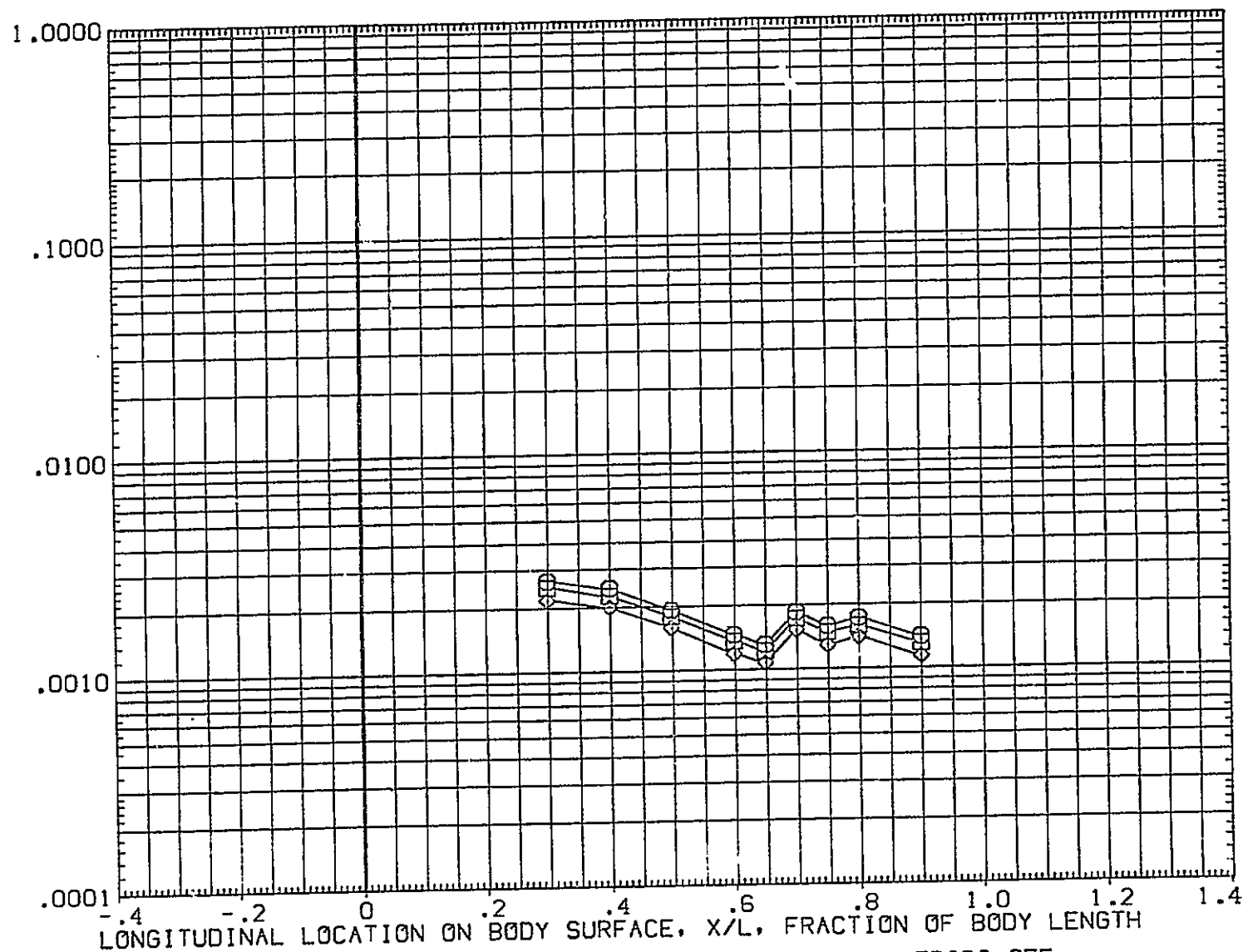
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	90.000	-10.000
□	.900		
○	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	DELTAH	.175
HACH	19.800		

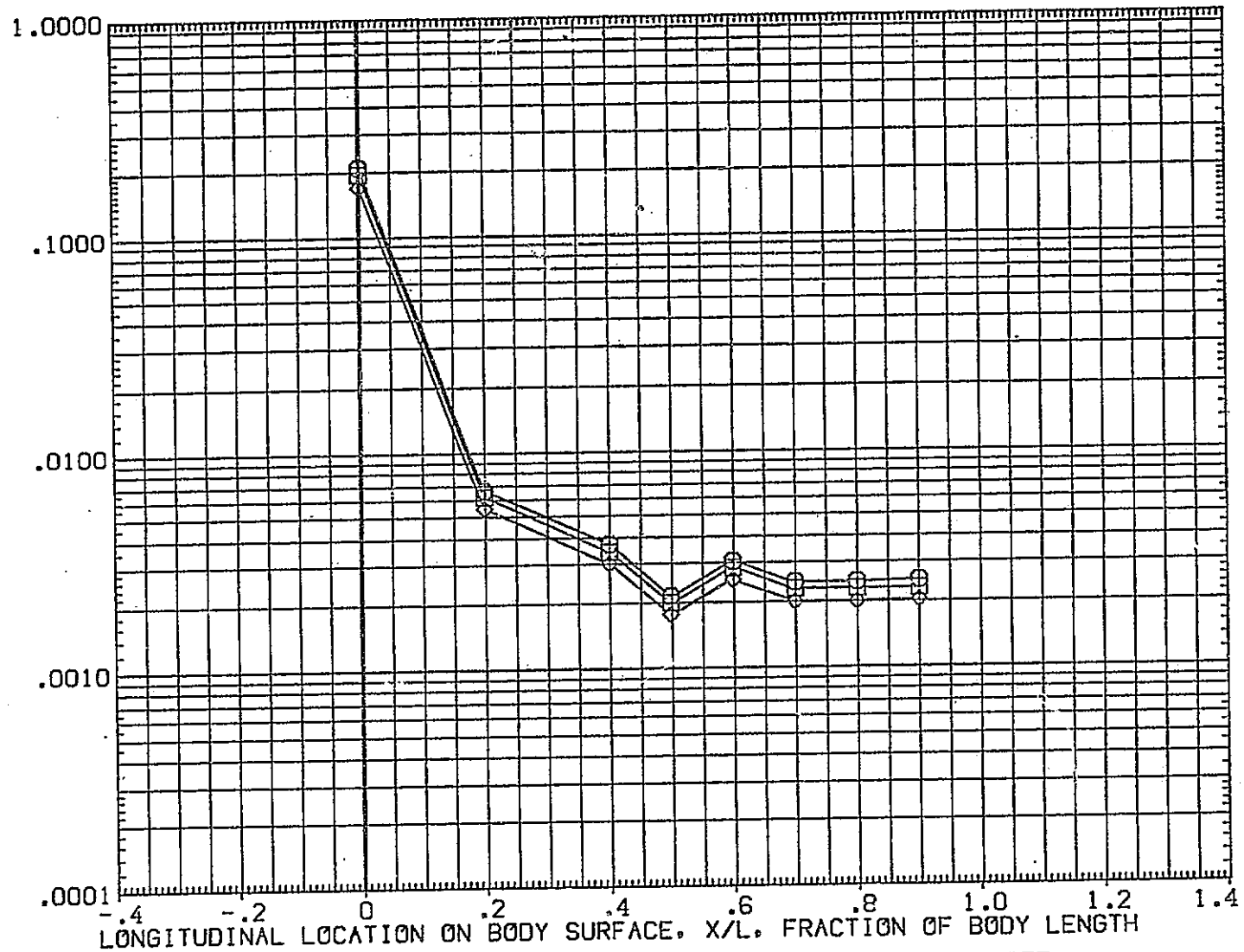
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

IH19 B22C7F5M4V7W111 T8 EXTERNAL TANK

(SQET02)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	112.500	-10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
MACH	19.800	

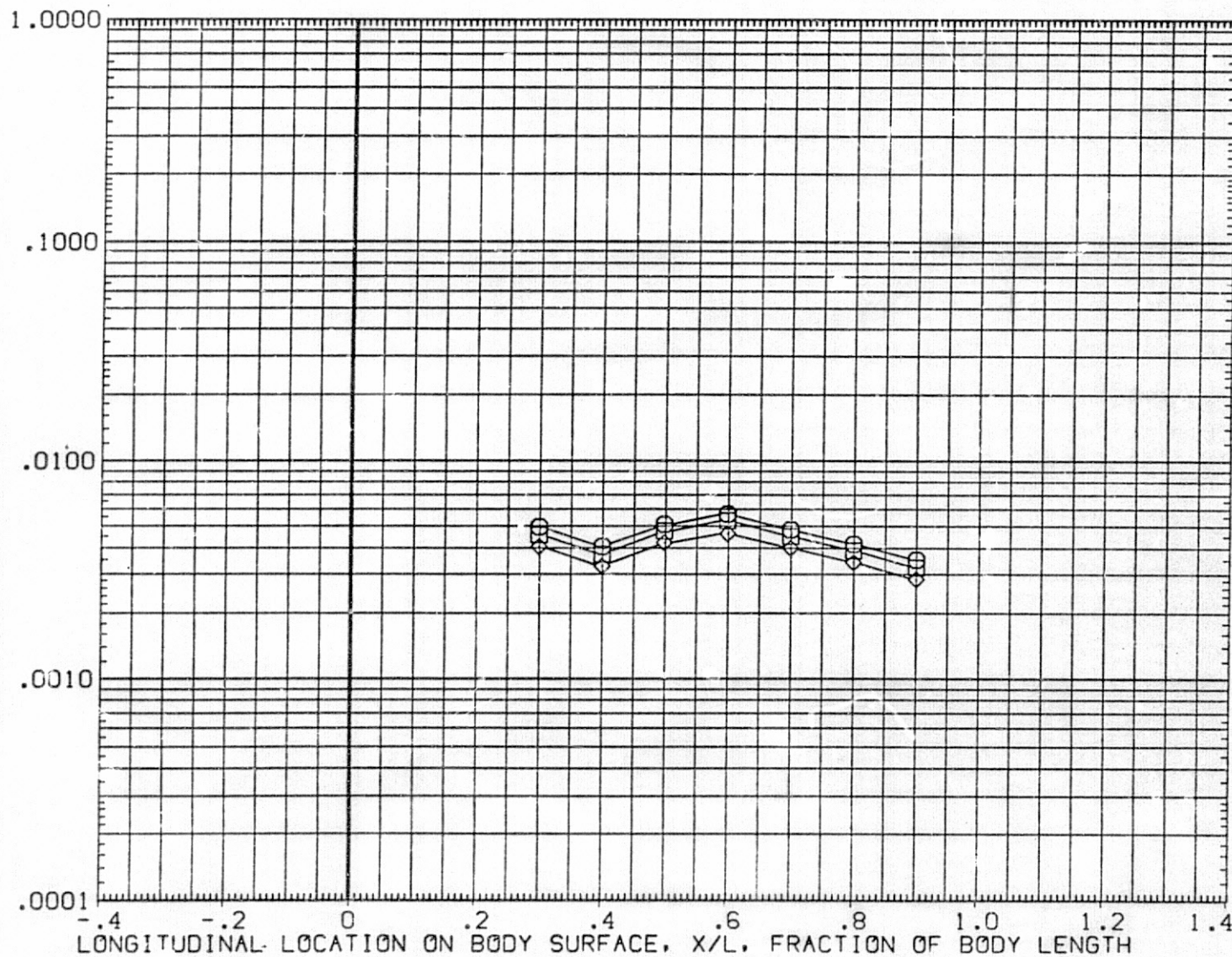
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	135.000	-10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
MACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

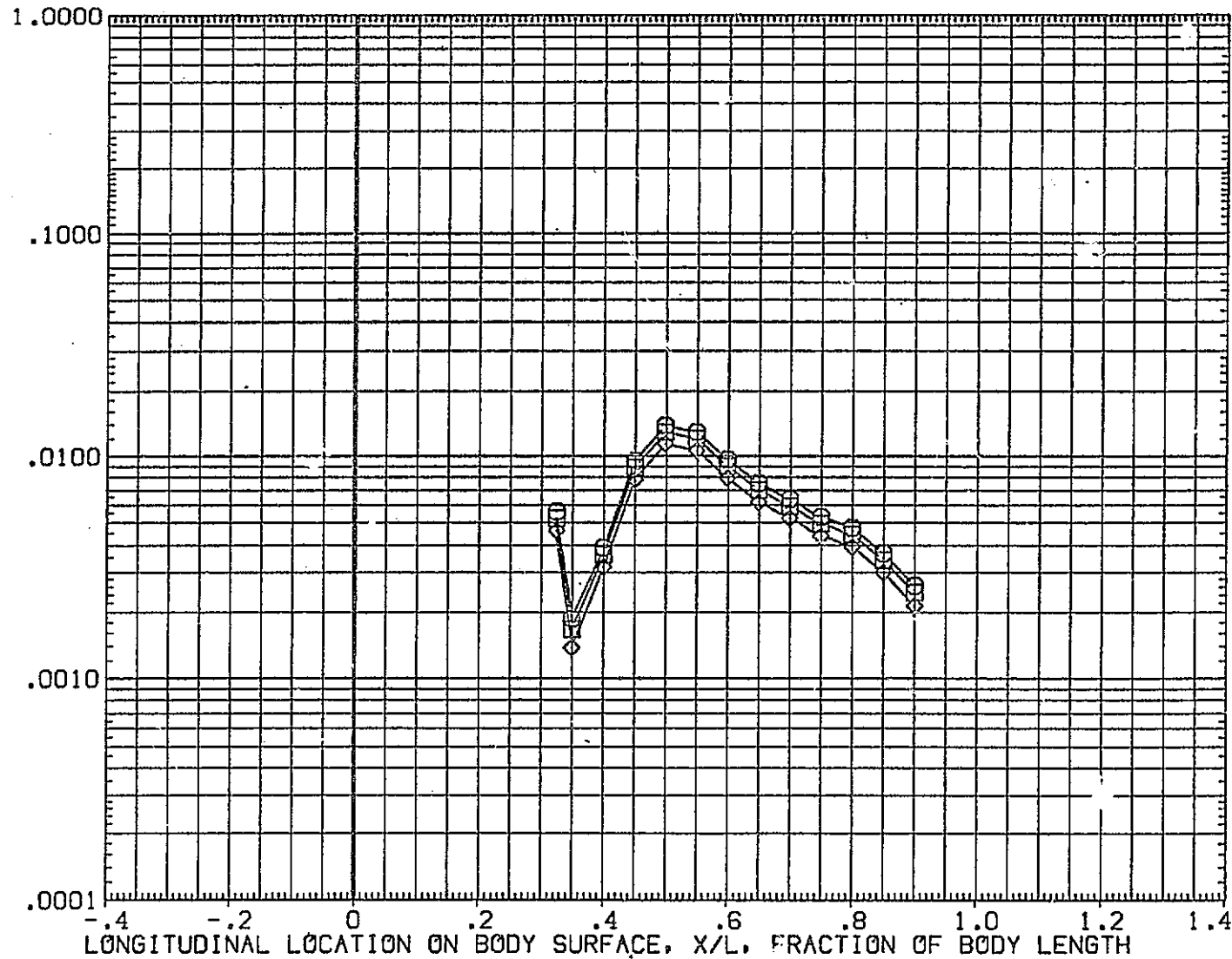


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

IH19 B22C7F5M4V7W111 T8 EXTERNAL TANK

(SQETO2)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	157.500	-10.000
□	.900		
	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	DELTAH	.175
MACH	19.800		

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

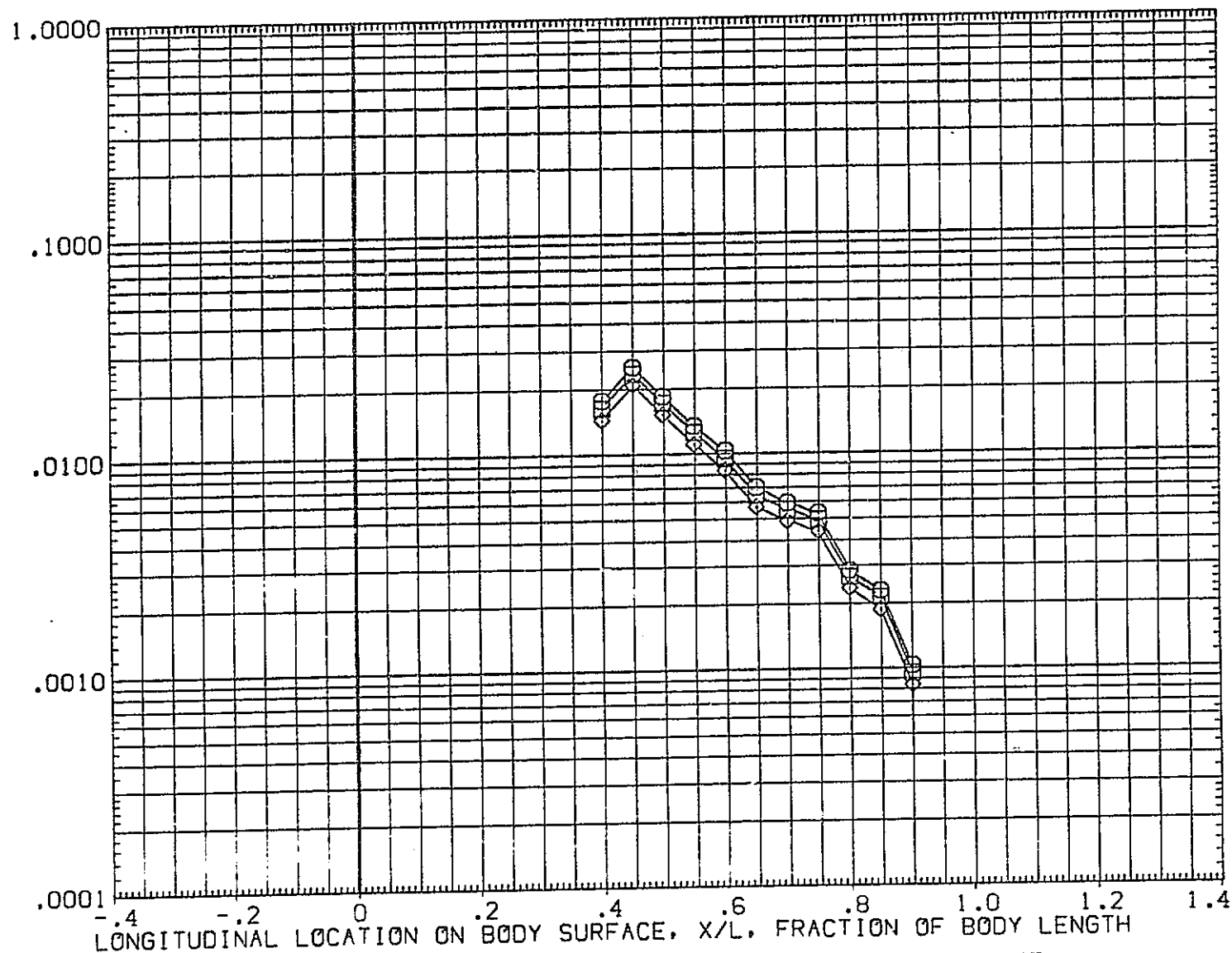


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	180.000	-10.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
MACH	19.800	

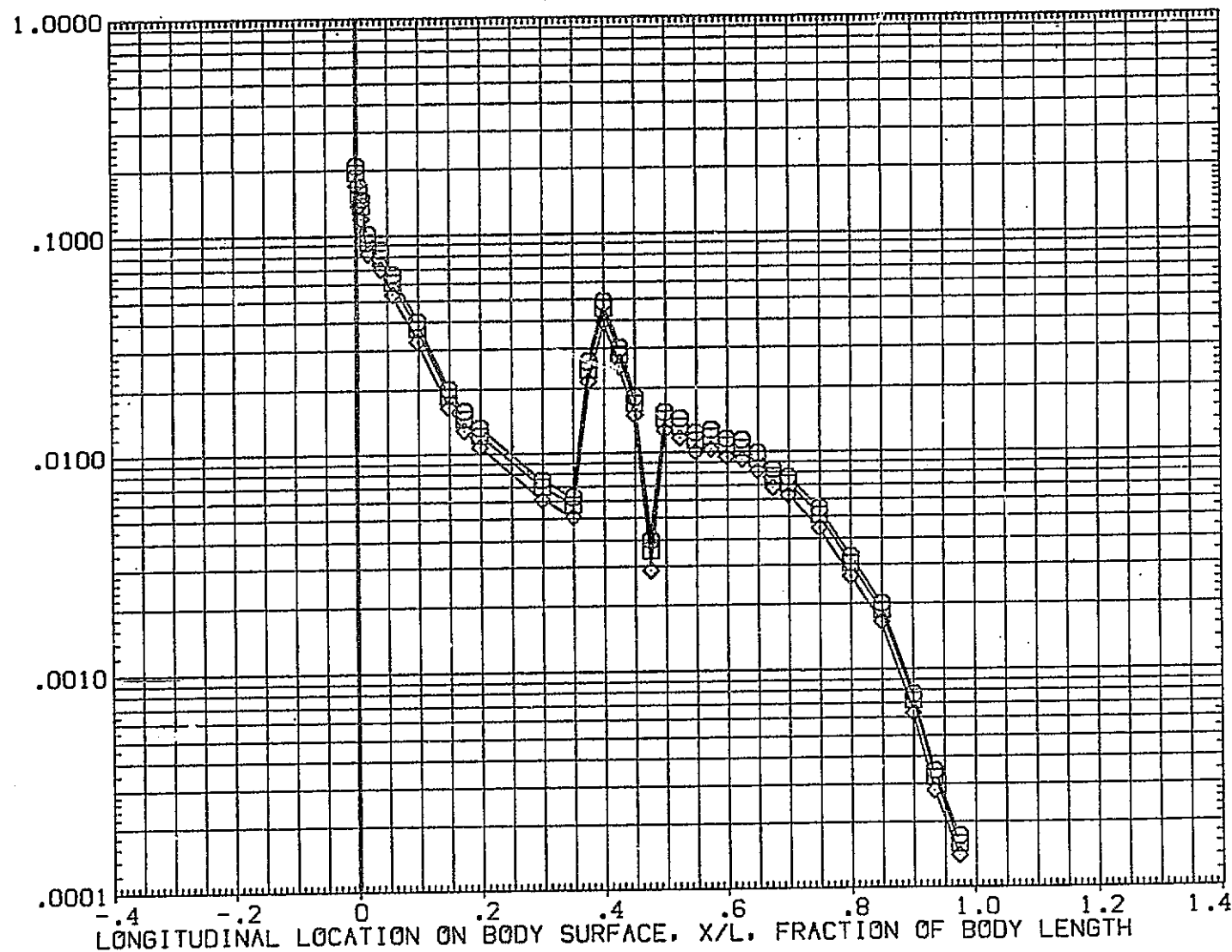
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

## IH19 B22C7F5M4V7W111 T8 EXTERNAL TANK

(SQET02)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	.000	-5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
MACH	19.800	

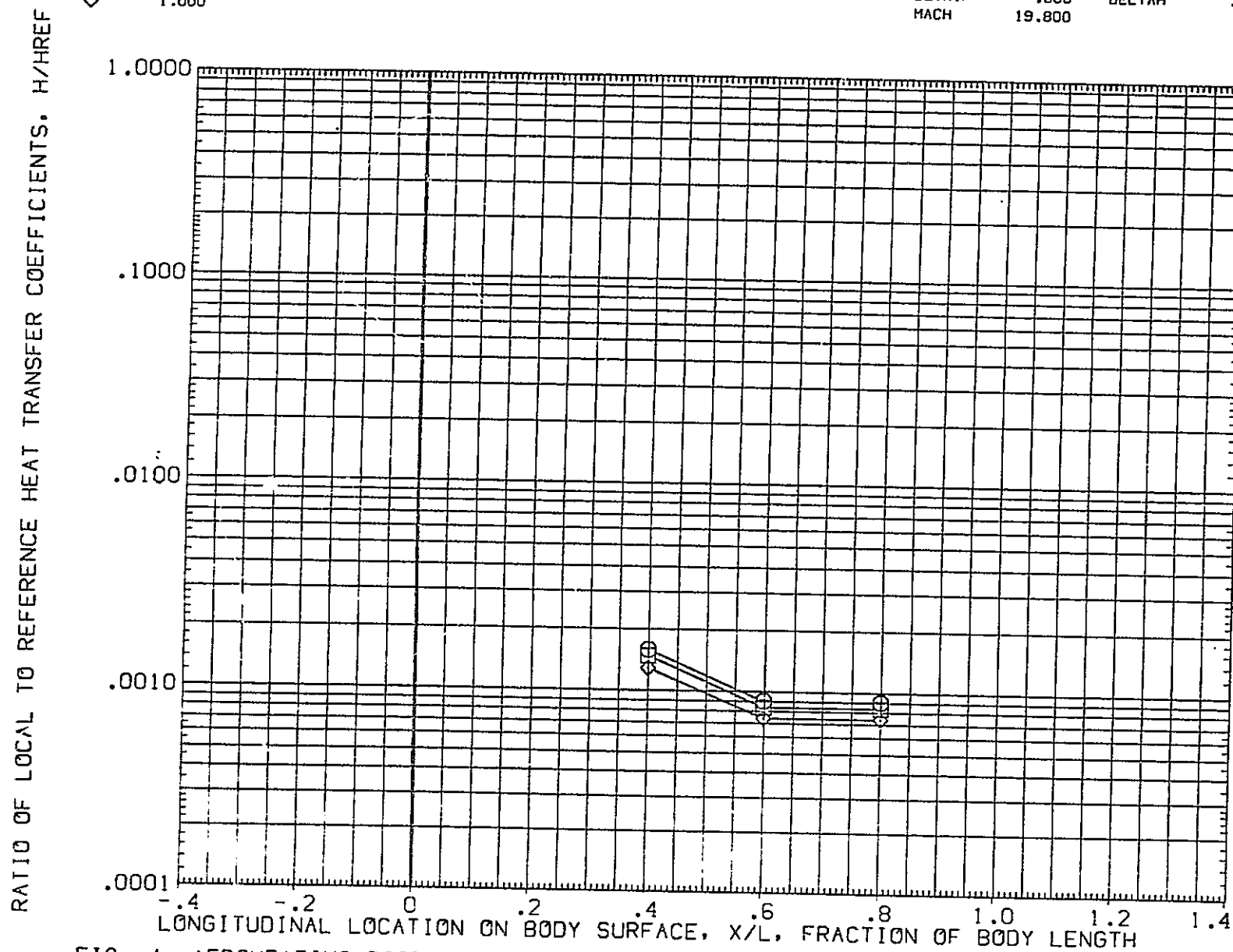


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	45.000	-5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
MACH	19.800	

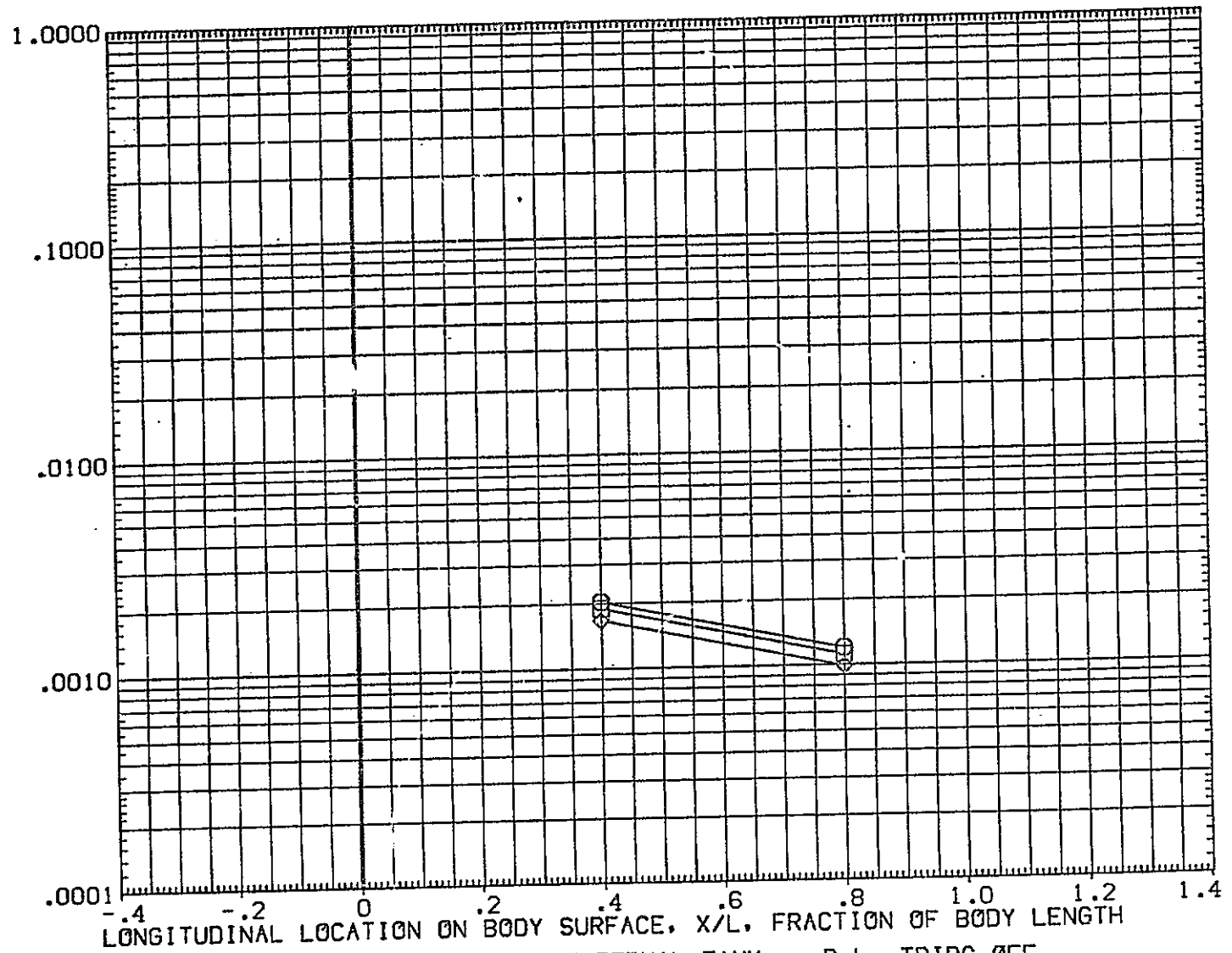
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF



SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	67.500	-5.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
MACH	19.800	

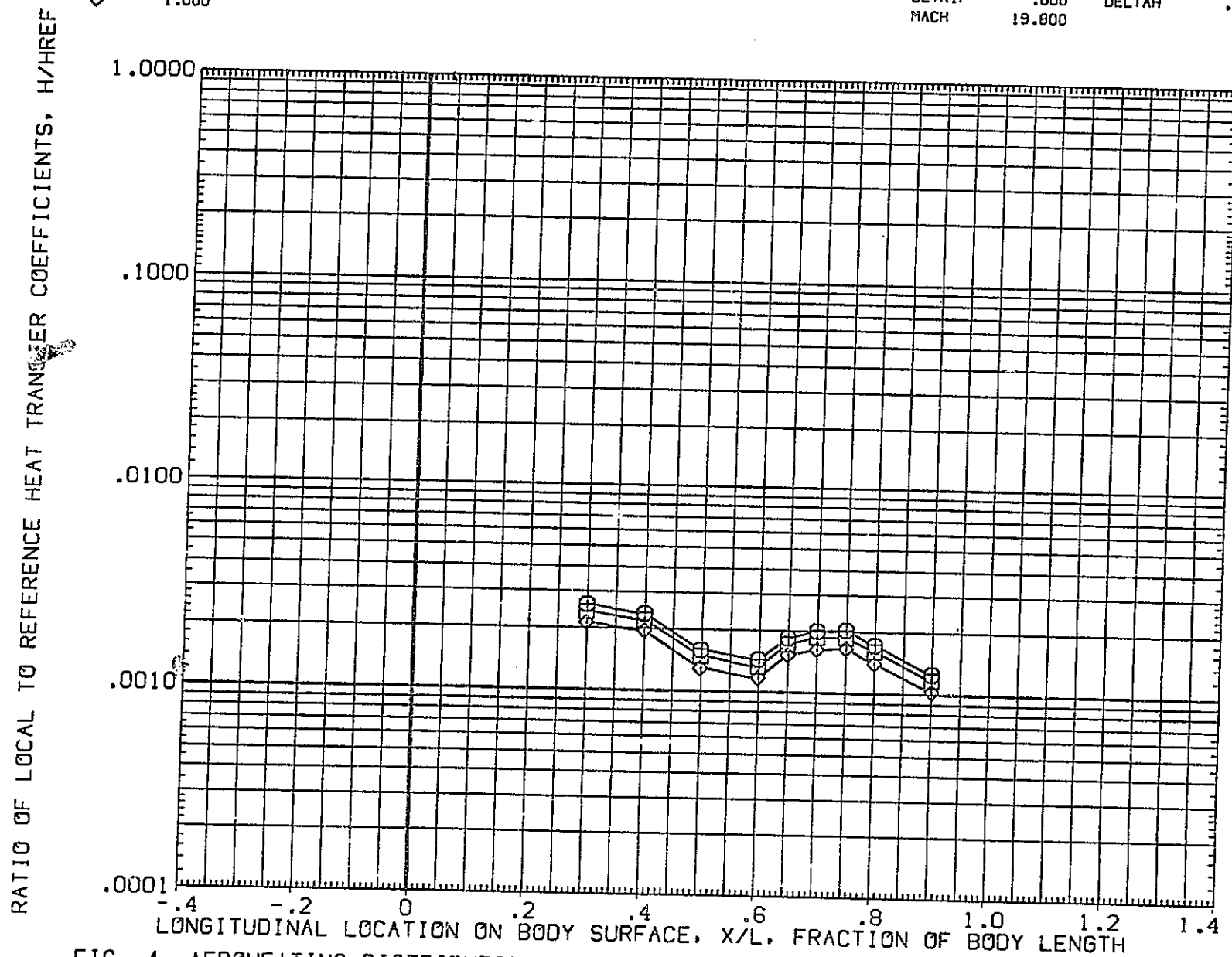


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	90.000	-5.000
□	.900		
○	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	DELTAH	.175
HACH	19.800		

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

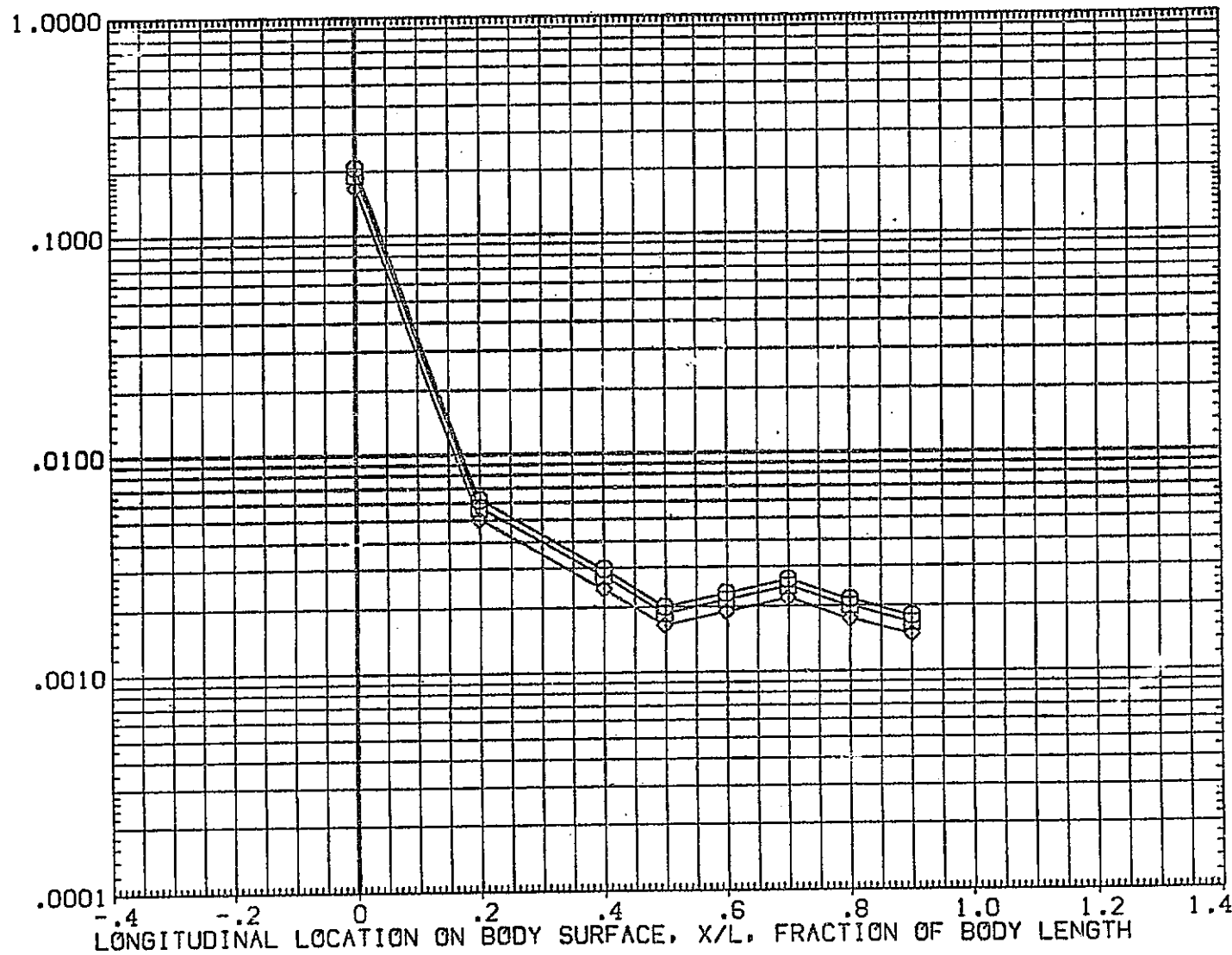


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

IH19 B22C7F5M4V7W111 T8 EXTERNAL TANK

(SQETO2)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	112.500	-5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	DELTAH	.175
MACH	19.800		

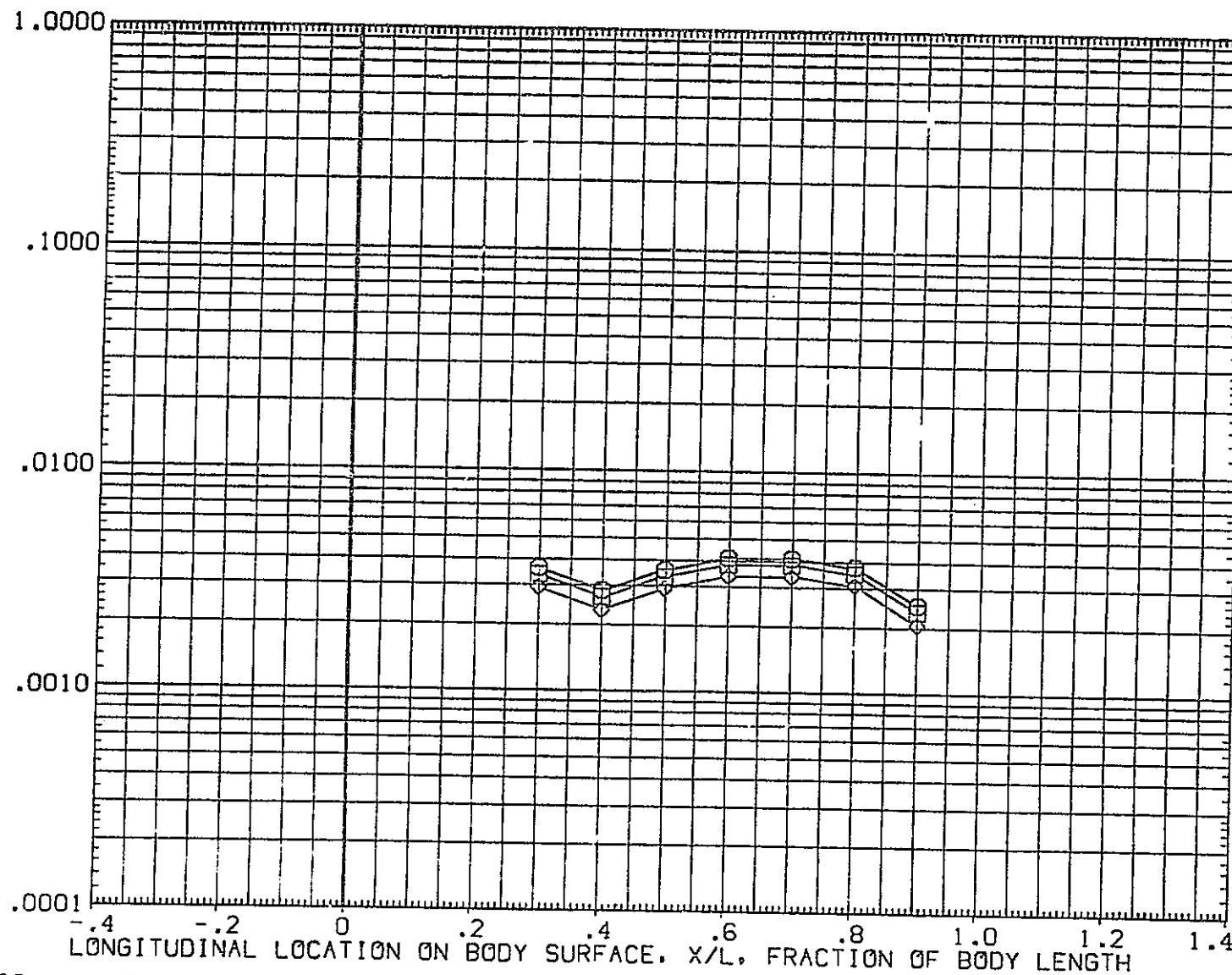
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	135.000	-5.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
MACH	19.800	

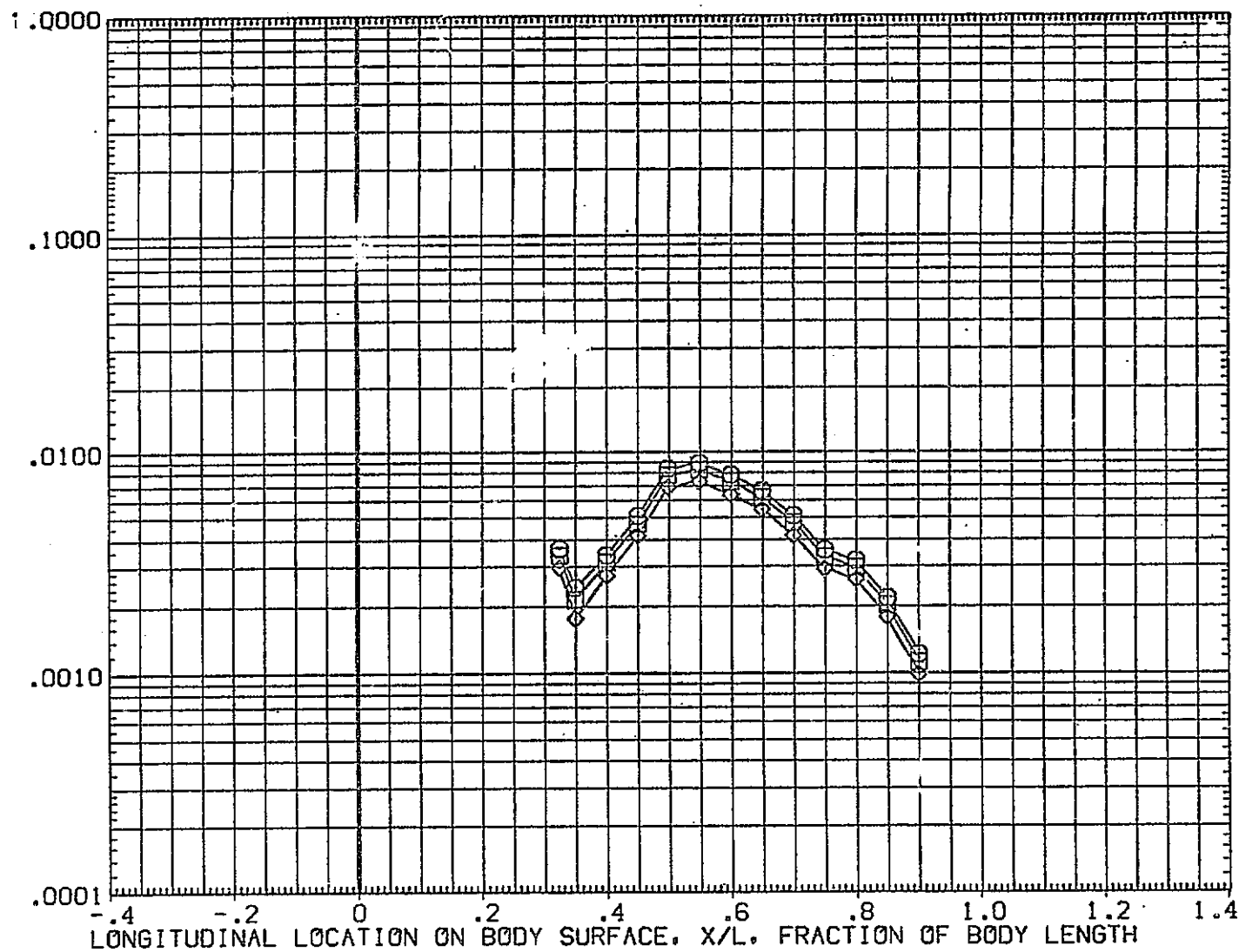
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

IH19 B22C7F5M4V7W111 T8 EXTERNAL TANK

(SQETO2)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	157.500	-5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
MACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

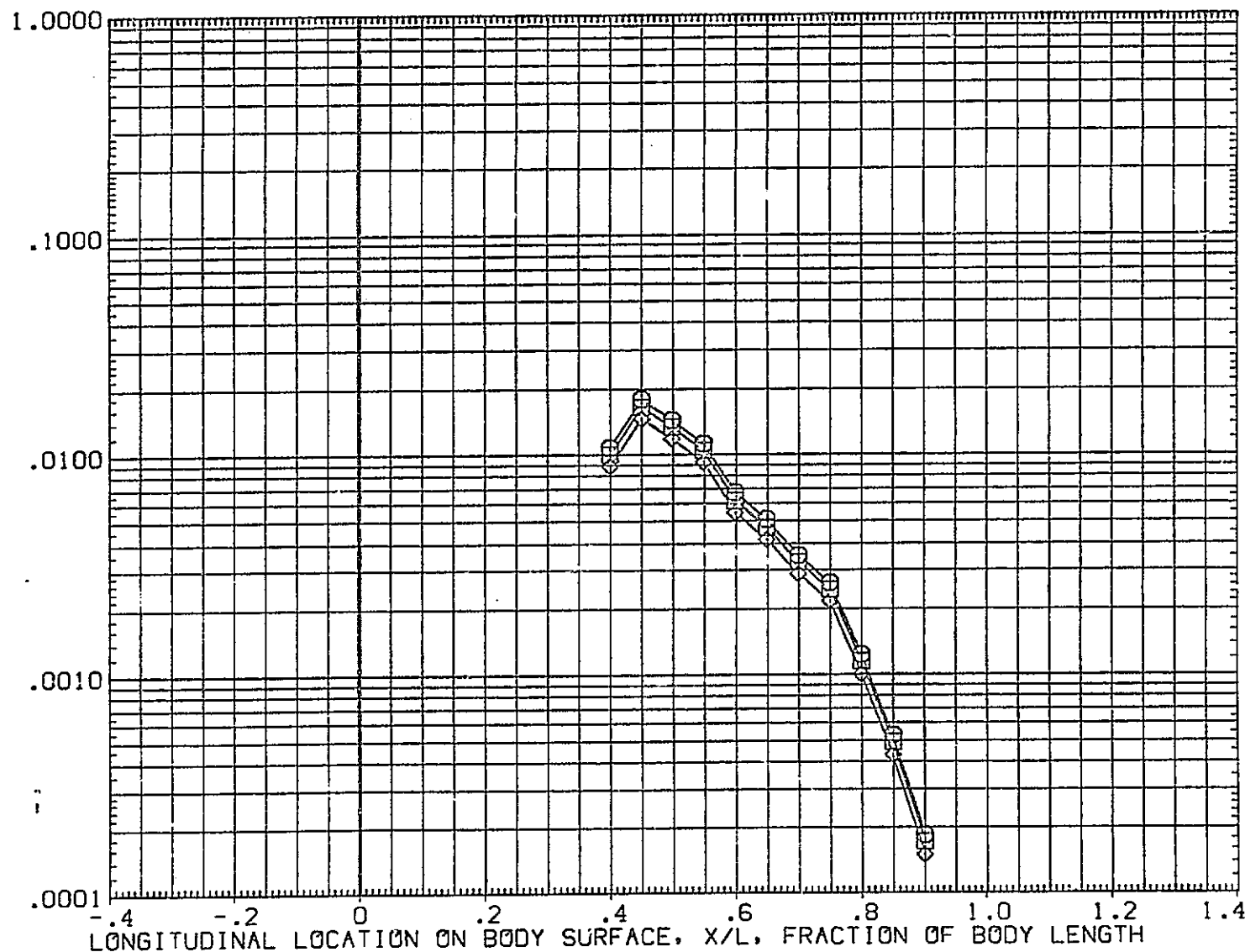


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	180.000	-5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	DELTAH	.175
MACH	19.800		

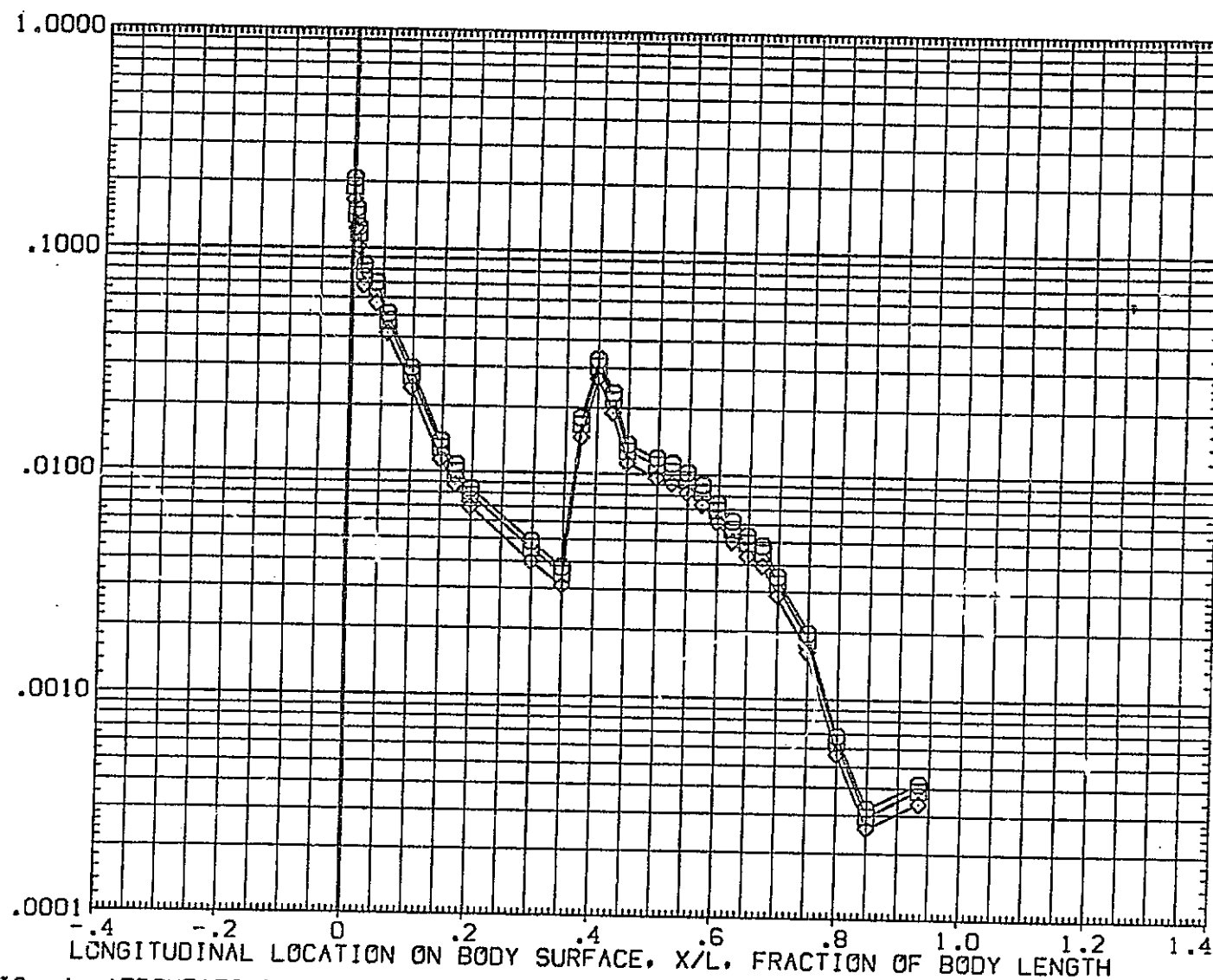
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

IH19 B22C7F5M4V7W111 T8 EXTERNAL TANK

(SQETO2)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	.000	.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	DELTAH	.175
MACH	19.800		

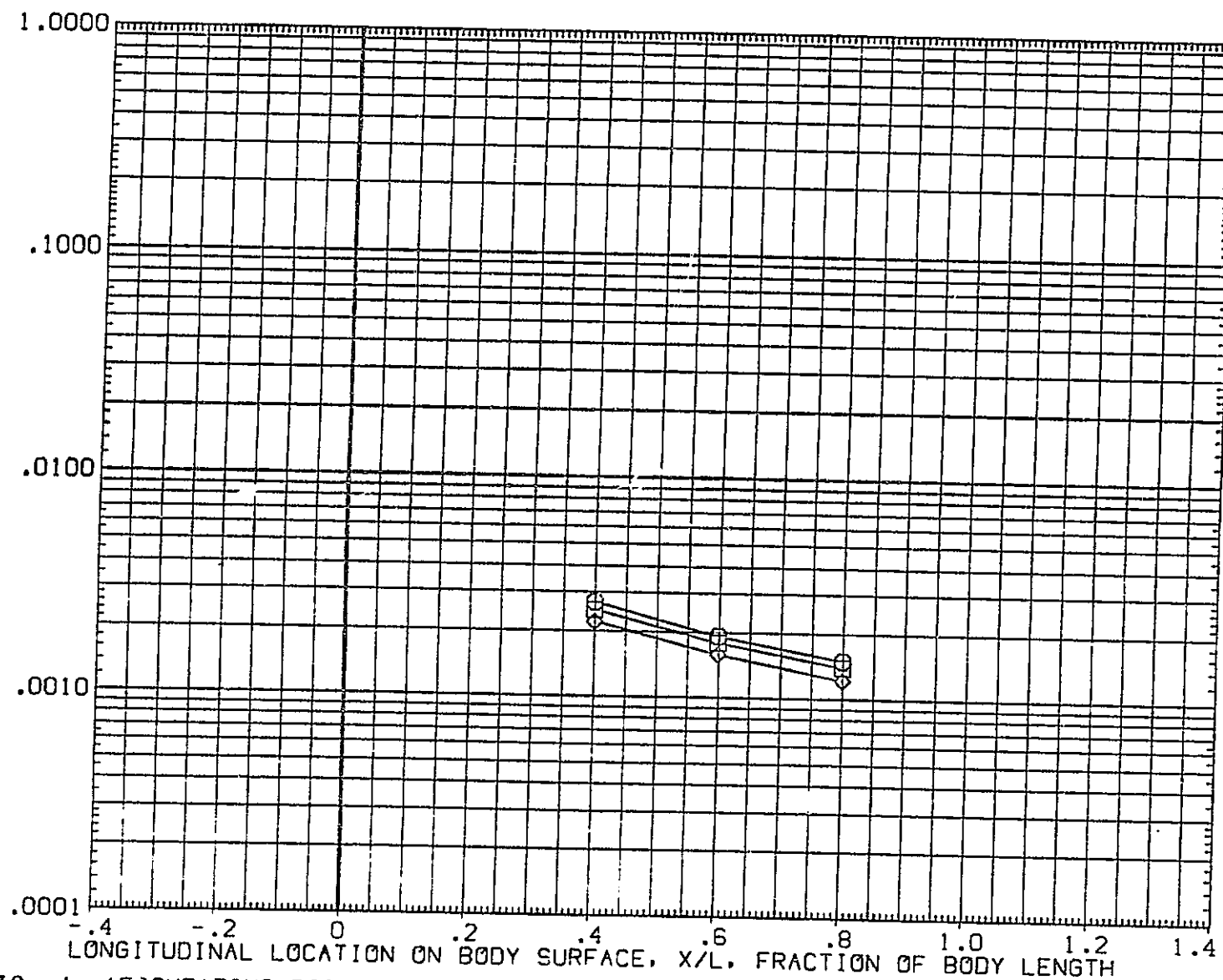
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	45.000	.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
MACH	19.800	

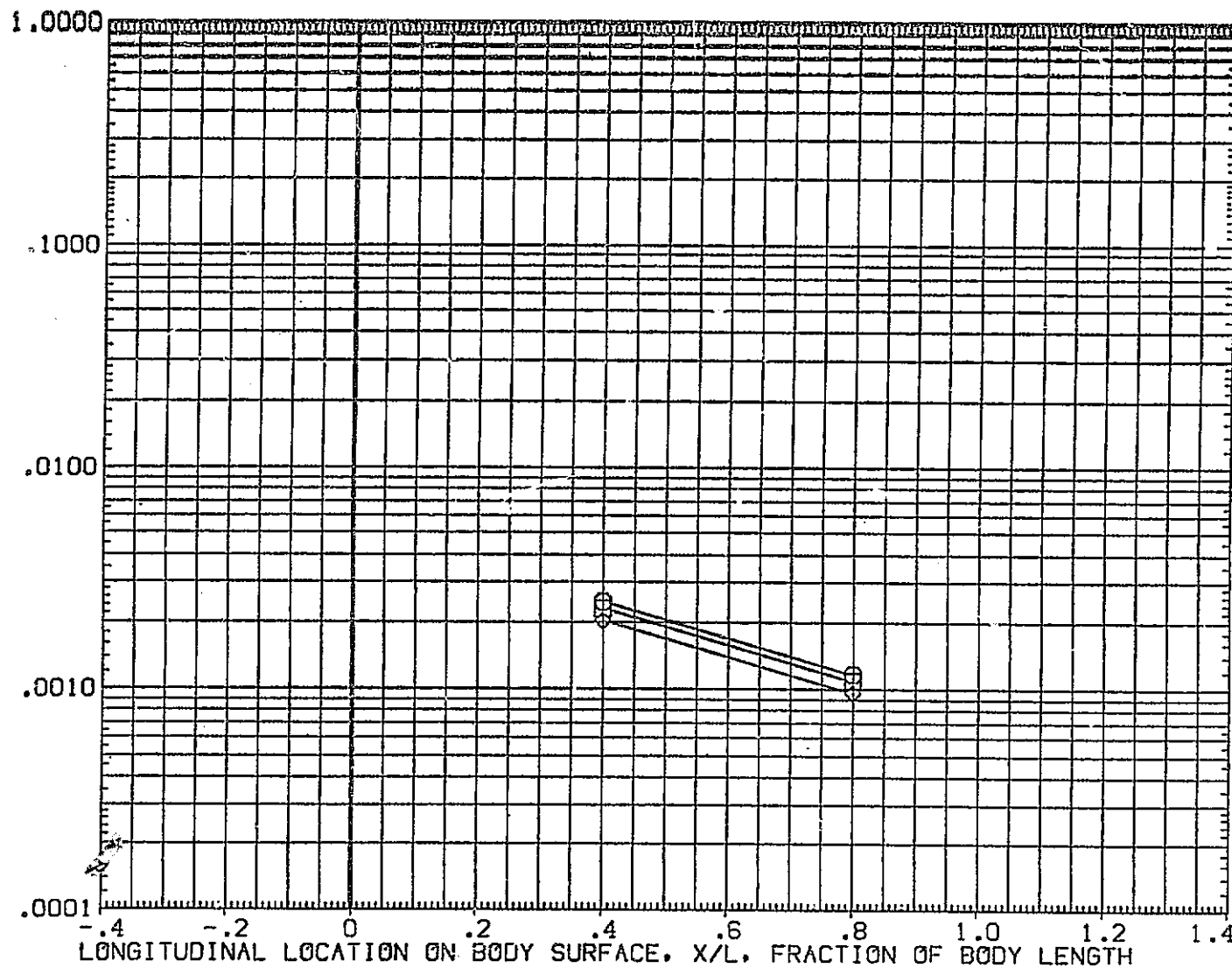
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF



IH19 B22C7F5M4V7W111 T8 EXTERNAL TANK

(SQETO2)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	67.500	.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
SLTRIP	.000	DELTAH .175
MACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

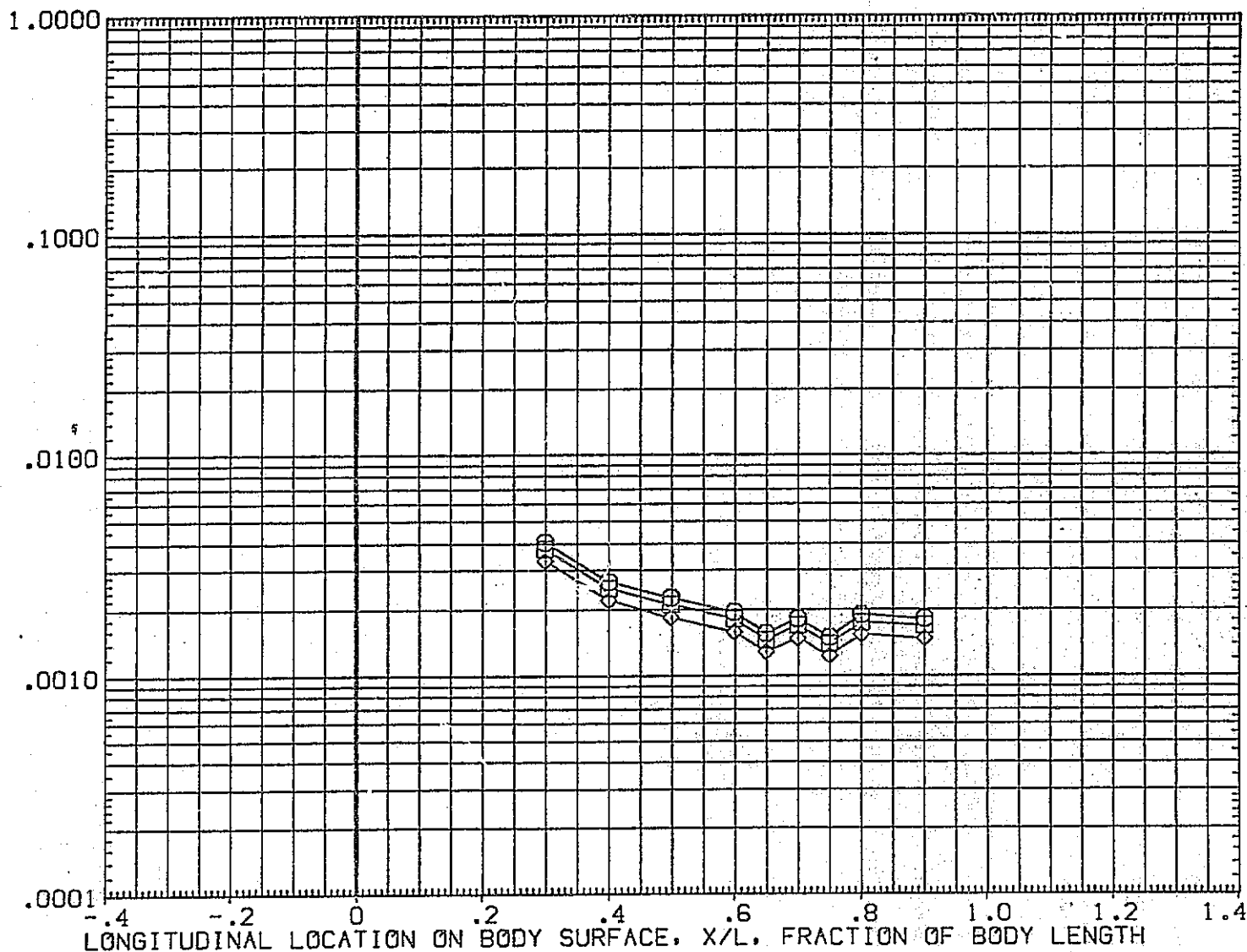


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	90.000	.000
□	.900		
◇	.1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .5
BLTRIP	.000	DELTAH .1
MACH	19.800	

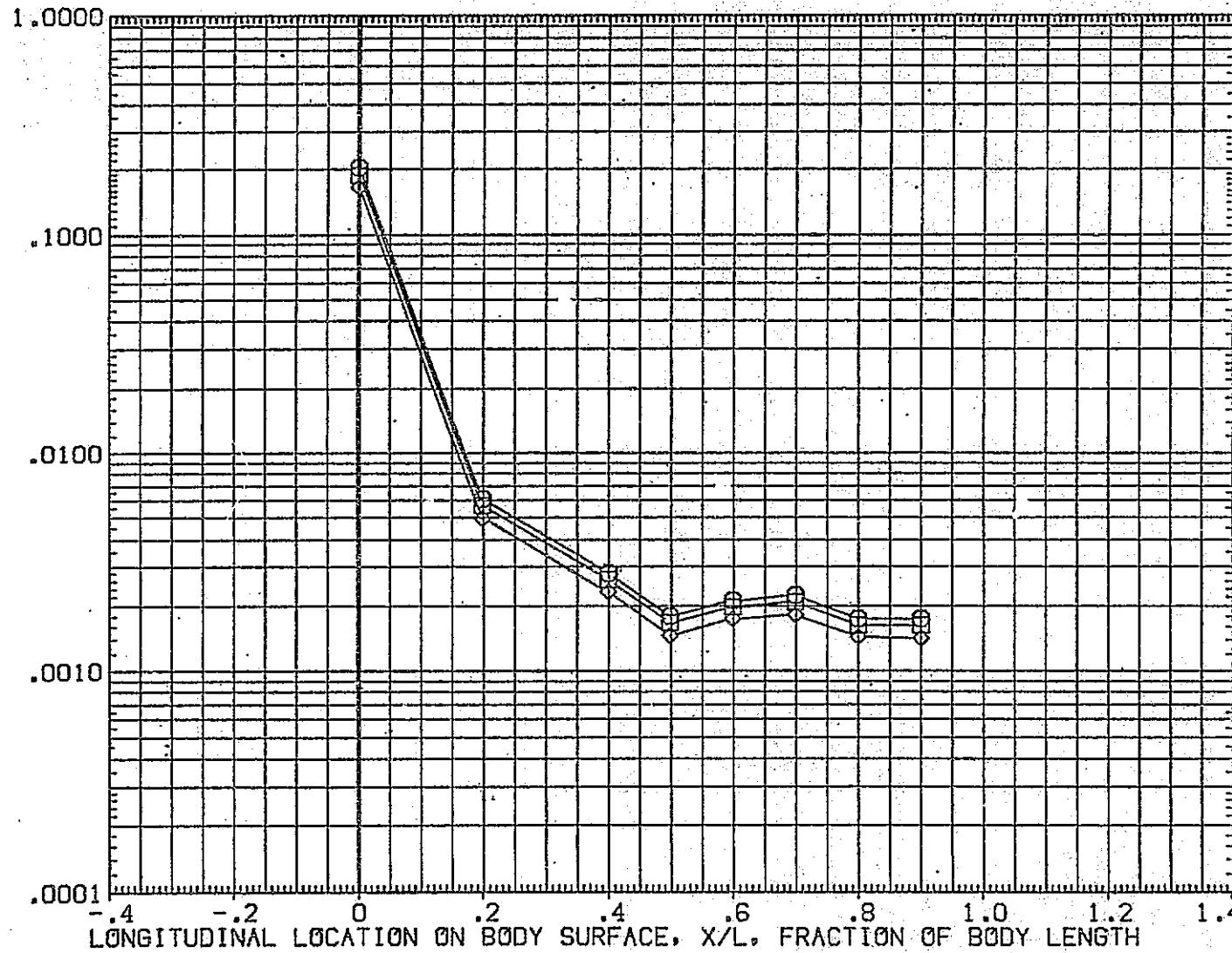
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

IH19 B22C7F5M4V7W111 T8 EXTERNAL TANK

(SQETO2)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	112.500	.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
MACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

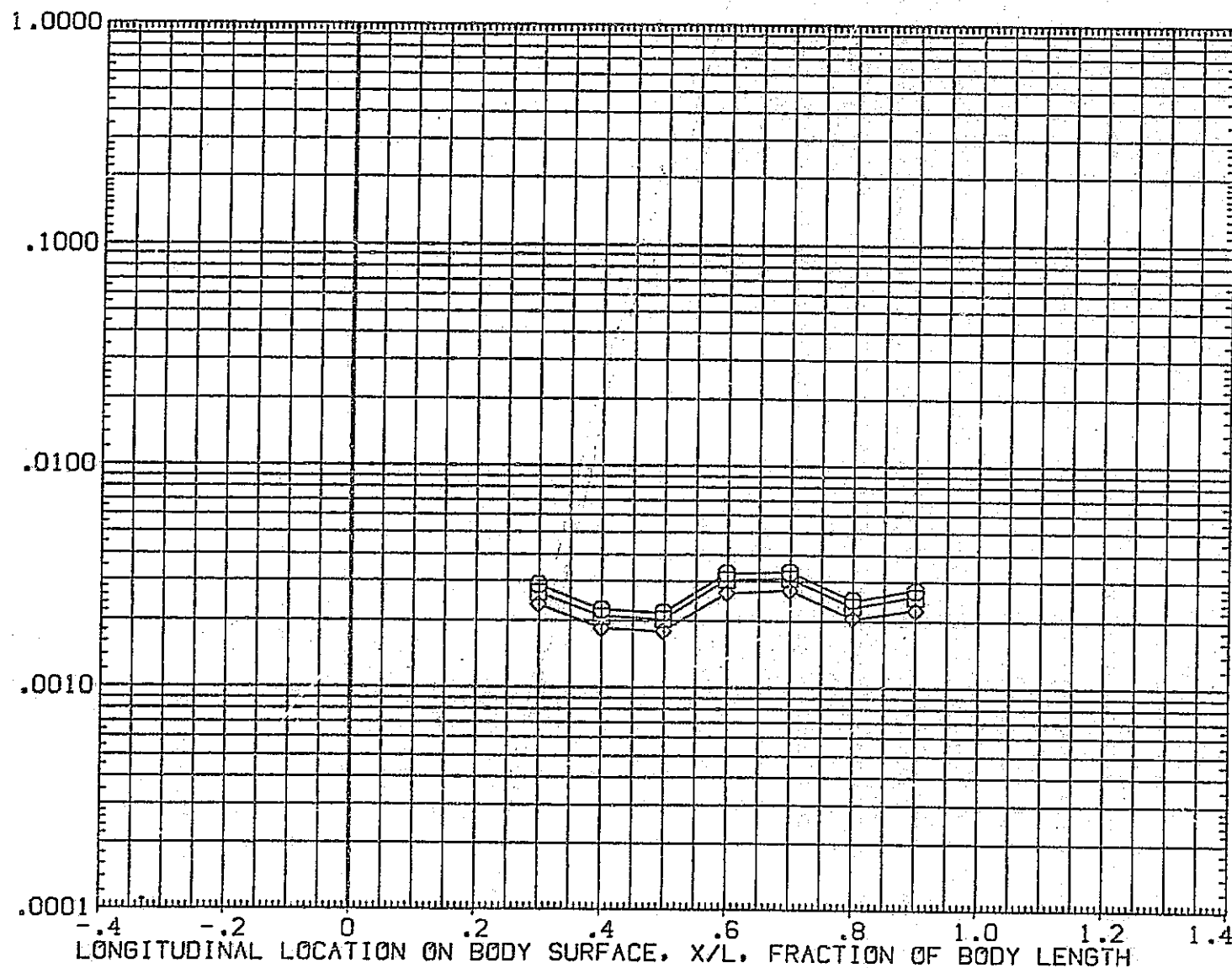


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

SYMBOL	HAW/HT	PHI	ALPHA
□	.850	135.000	.000
◇	.900		
	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
MACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

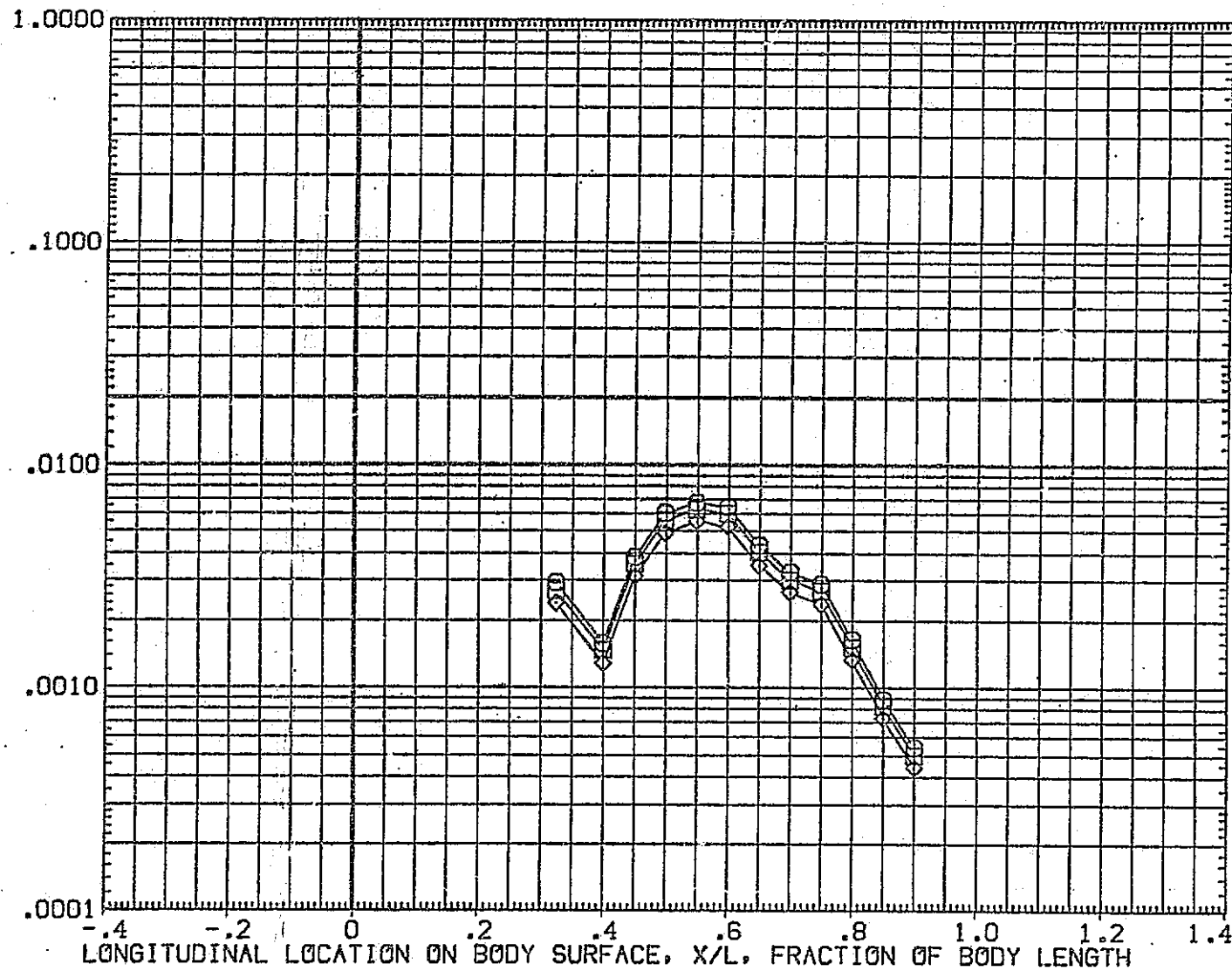


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	157.500	.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
MACH	19.800	

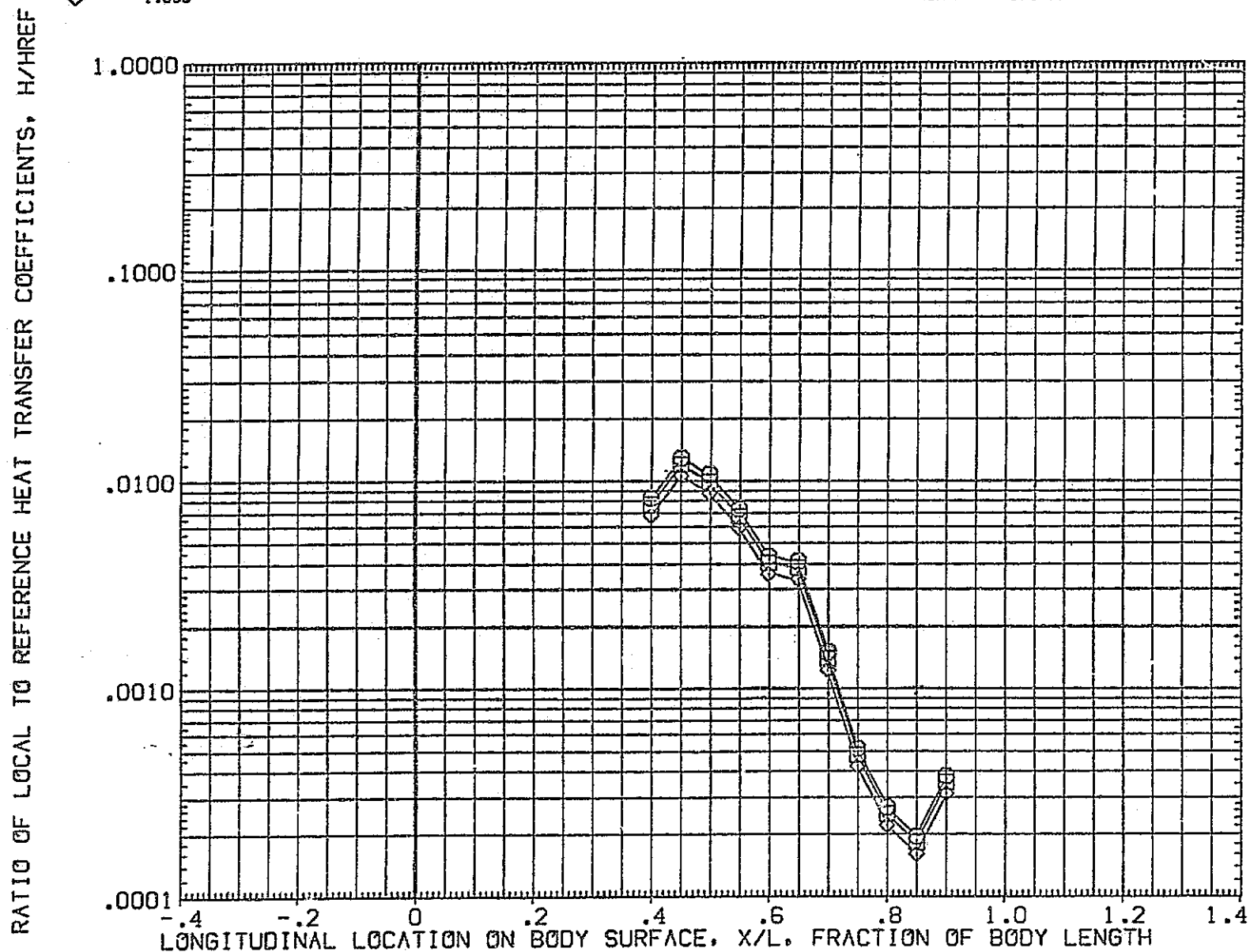


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	180.000	.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	DELTAH	.175
MACH	19.800		

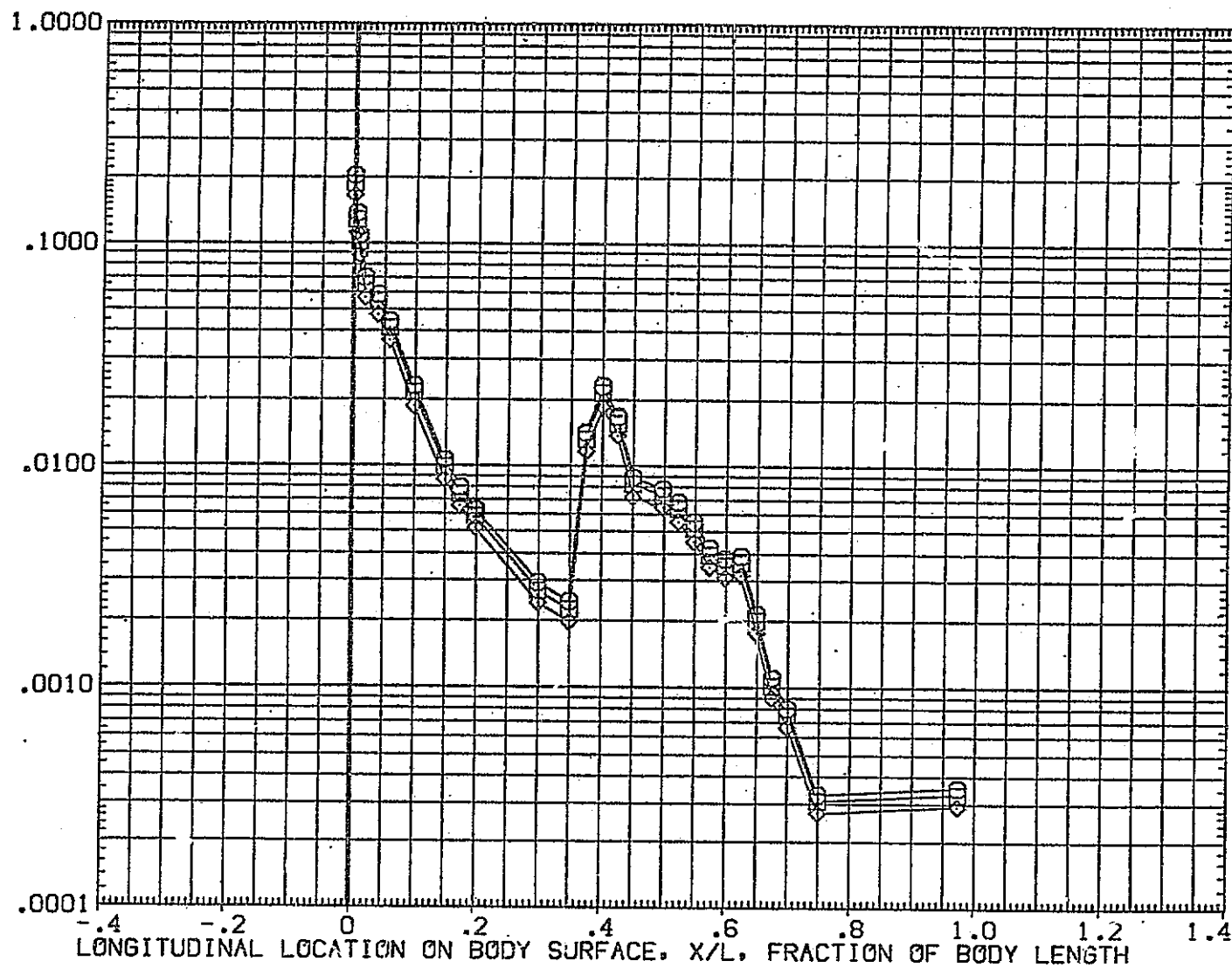
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $h/h_{REF}$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

IH19 B22C7F5M4V7W111 T8 EXTERNAL TANK

(SQET02)

SYMBOL	HAW/HT	PHI	ALPHA
□	.850	.000	5.000
◇	.900		
	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
MACH	19.800	

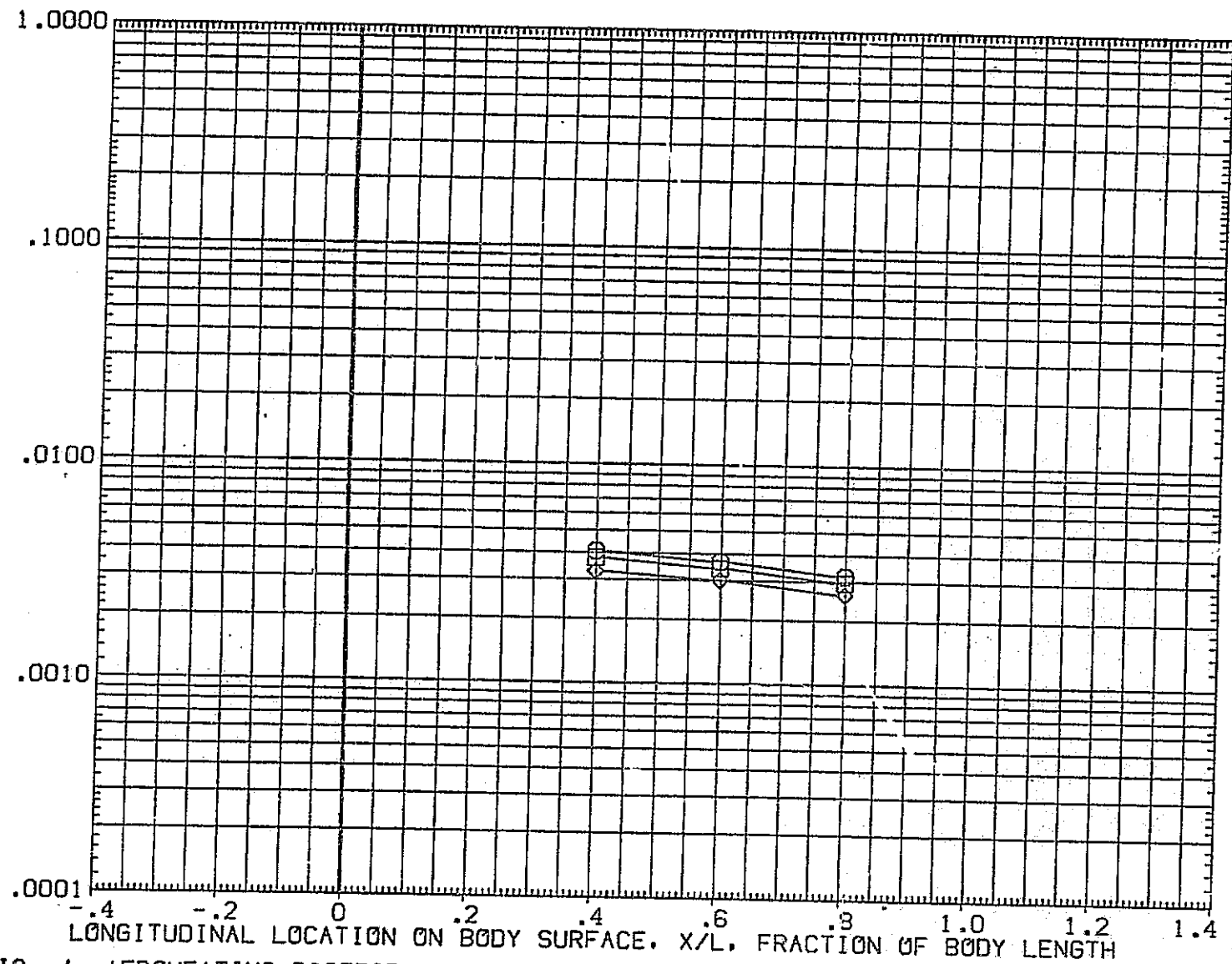
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	45.000	5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES.		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
HACH	19.800	

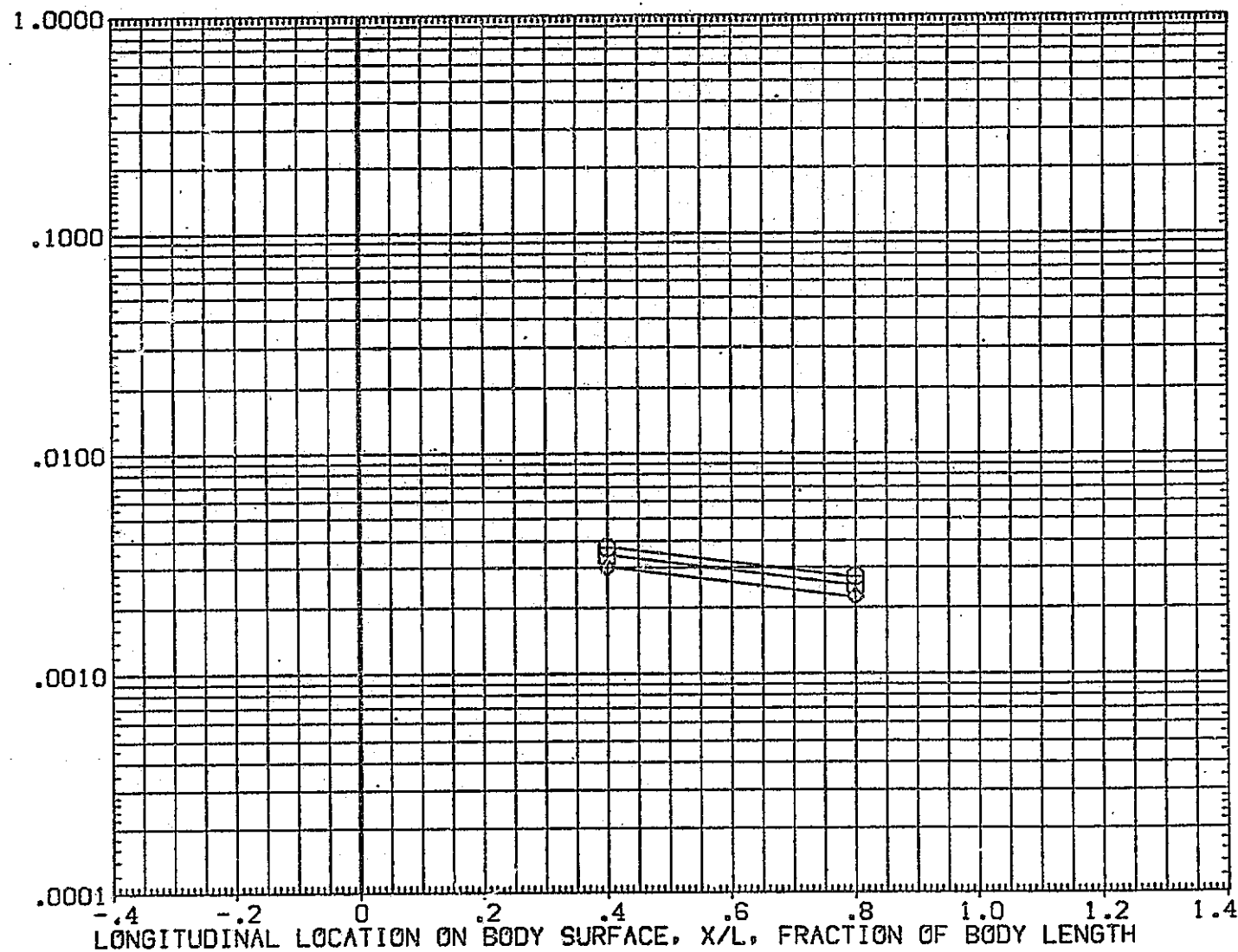
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $h/h_{REF}$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF



IH19 B22C7F5M4V7W111 T8 EXTERNAL TANK

(SQETO2)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	67.500	5.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
MACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

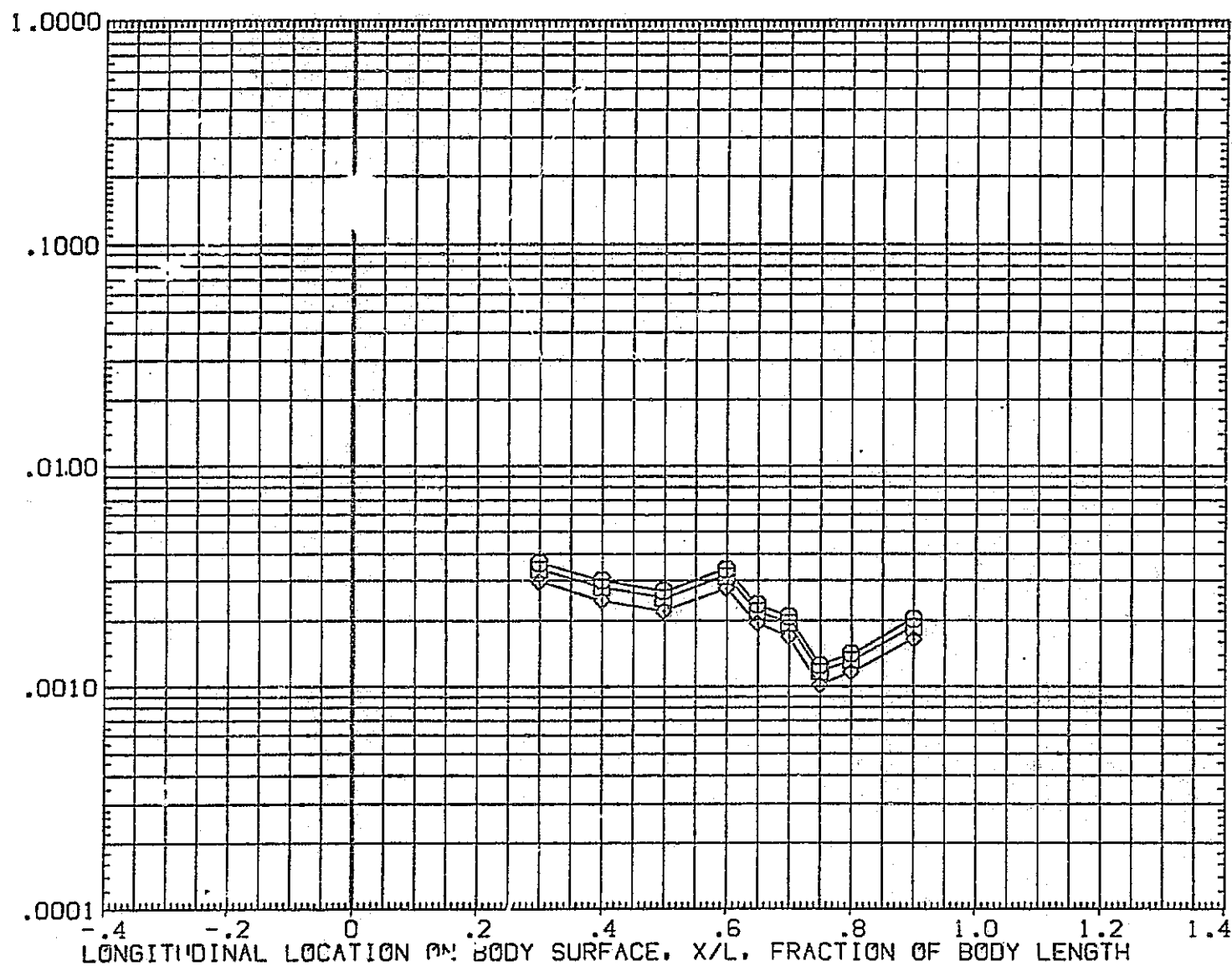


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	90.000	5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
MACH	19.600	

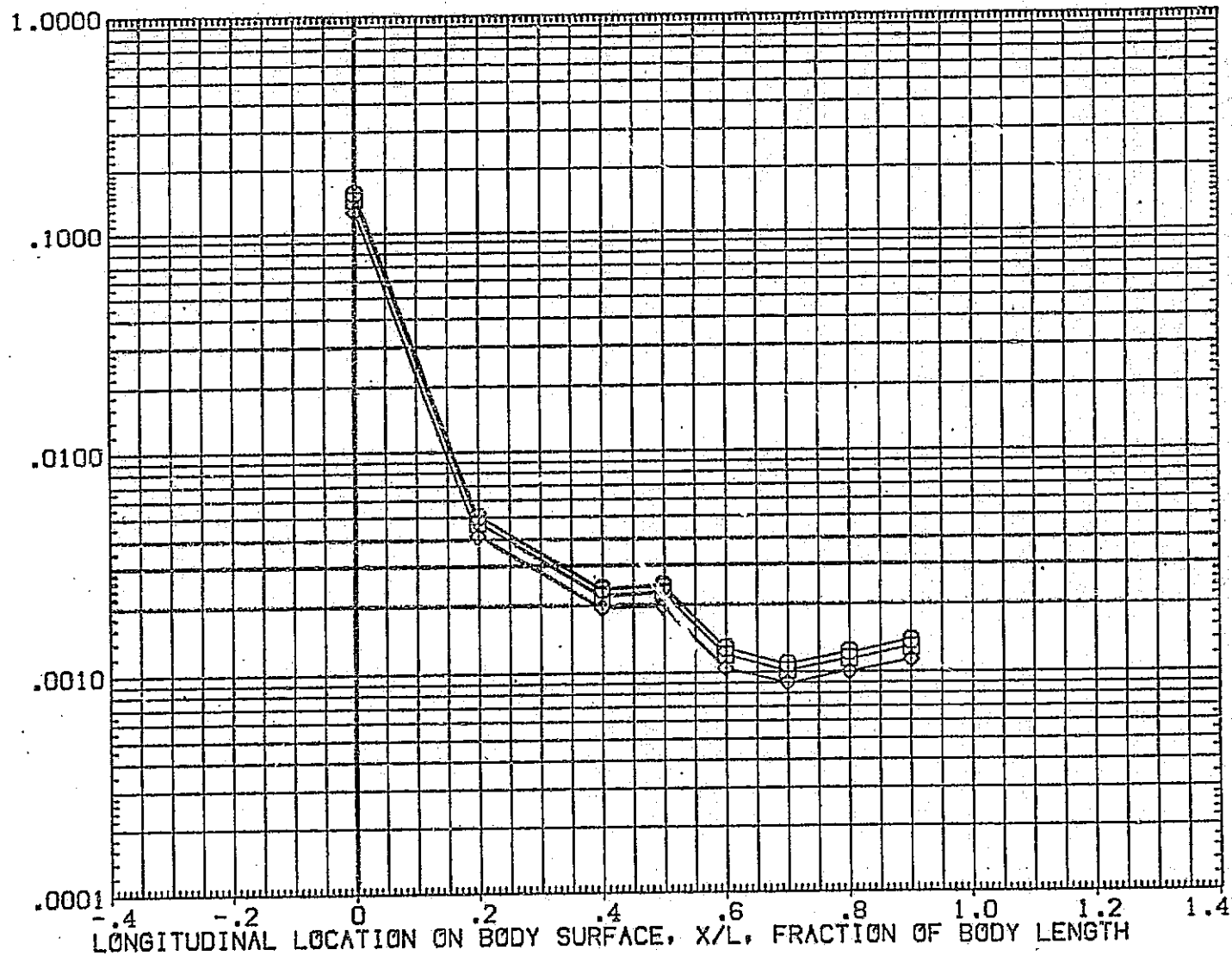
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	112.500	5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
MACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

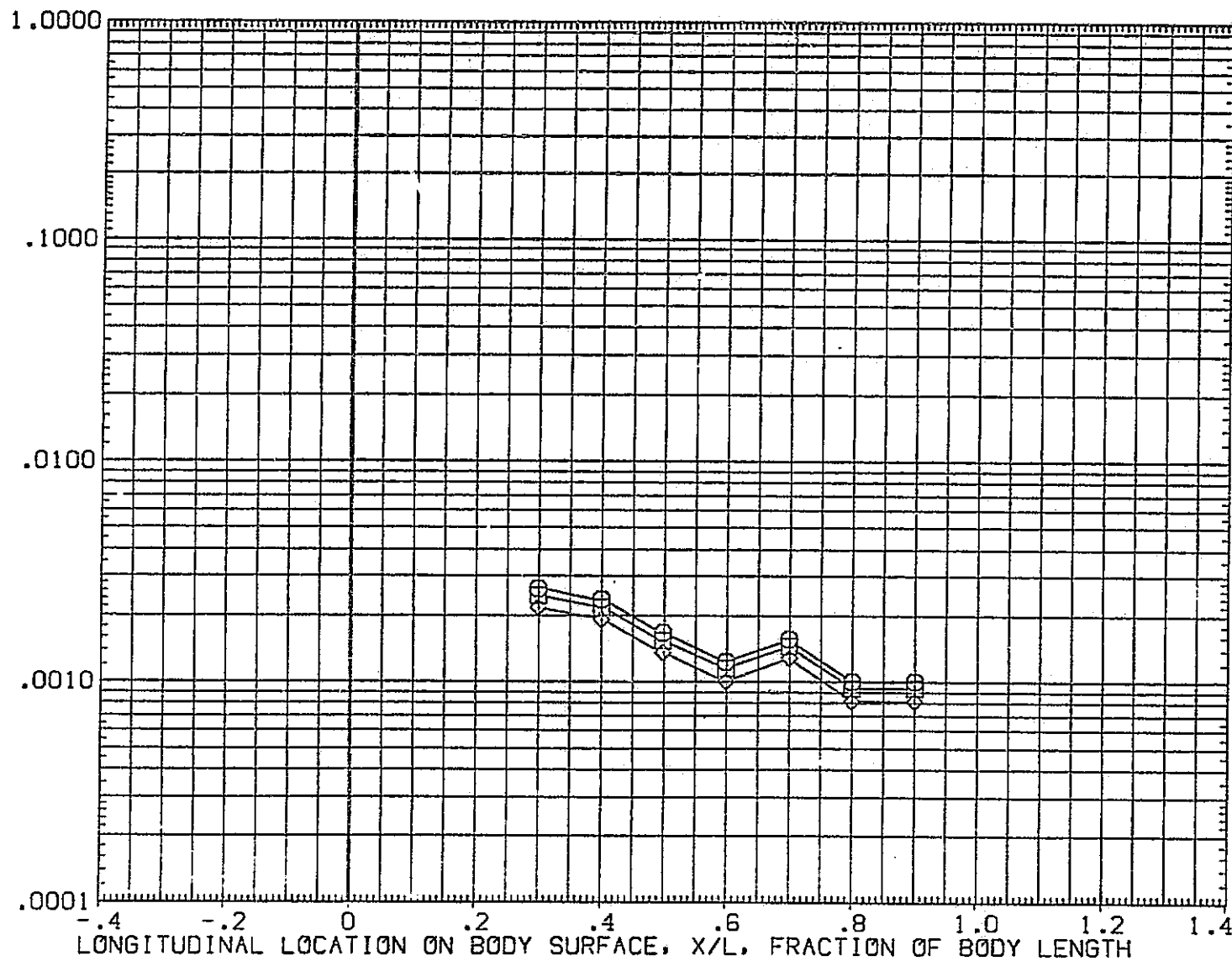


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	135.000	5.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
MACH	19.800	

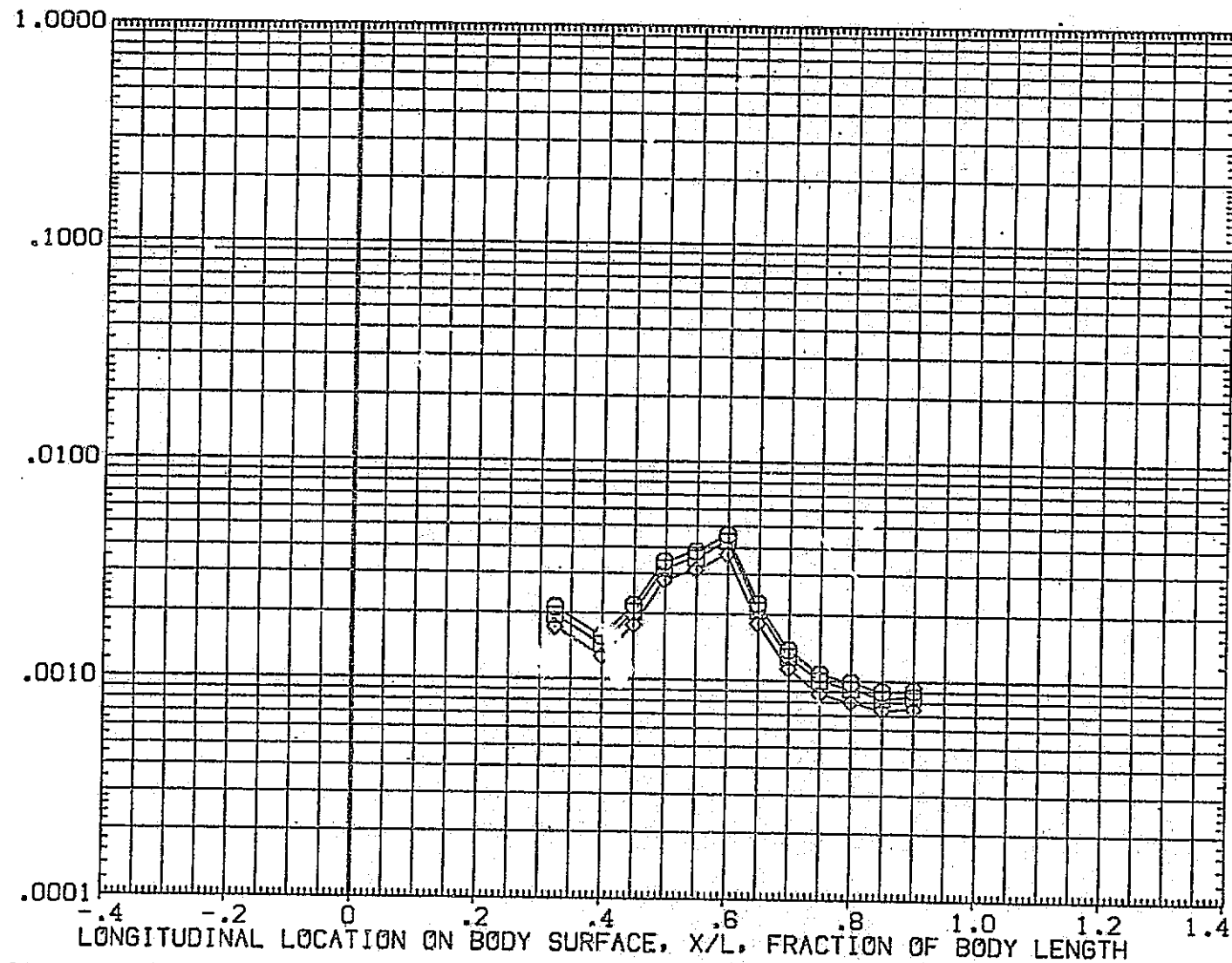
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $h/h_{REF}$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

IH19 B22C7F5M4V7W111 T8 EXTERNAL TANK

(SQETO2)

SYMBOL	HAW/HT	PHI	ALPHA
□	.850	157.500	5.000
◇	.900		
	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
MACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

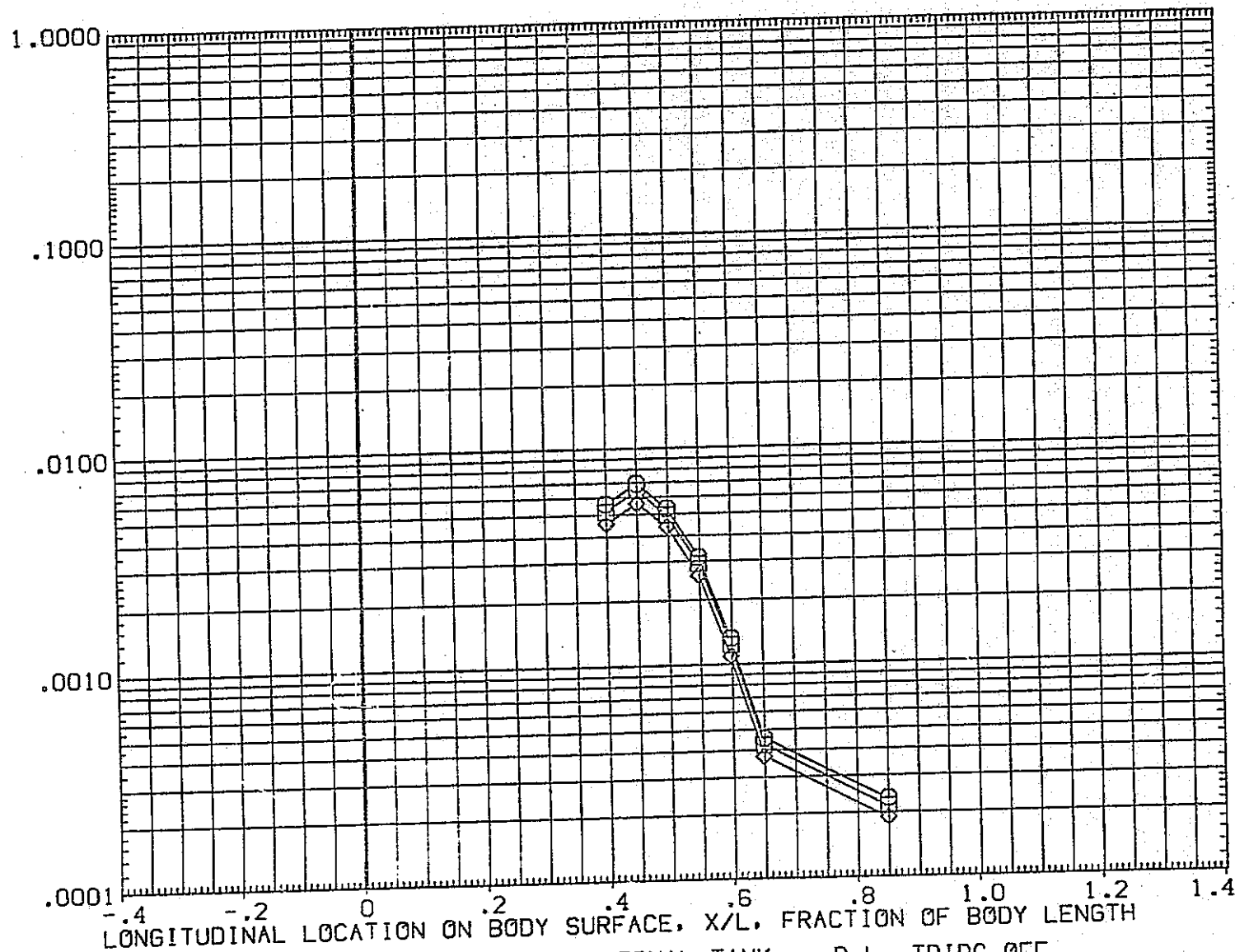


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

SYMBOL	HAU/HT	PHI	ALPHA
○	.850	180.000	5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	DELTAH	.175
HACH	19.800		

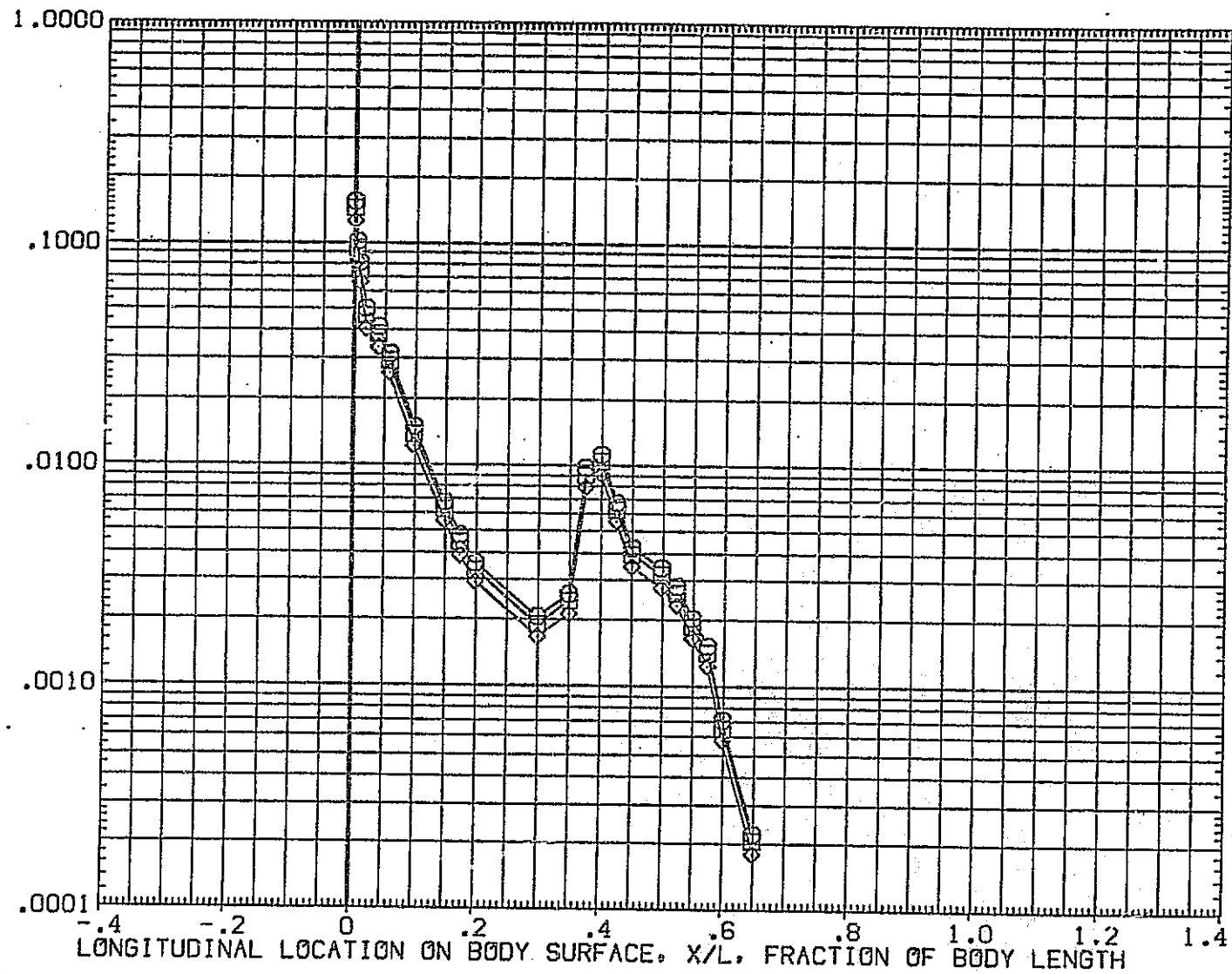
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $h/h_{REF}$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

IH19 B22C7F5M4V7W111 T8 EXTERNAL TANK

(SQET02)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	.000	10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
MACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

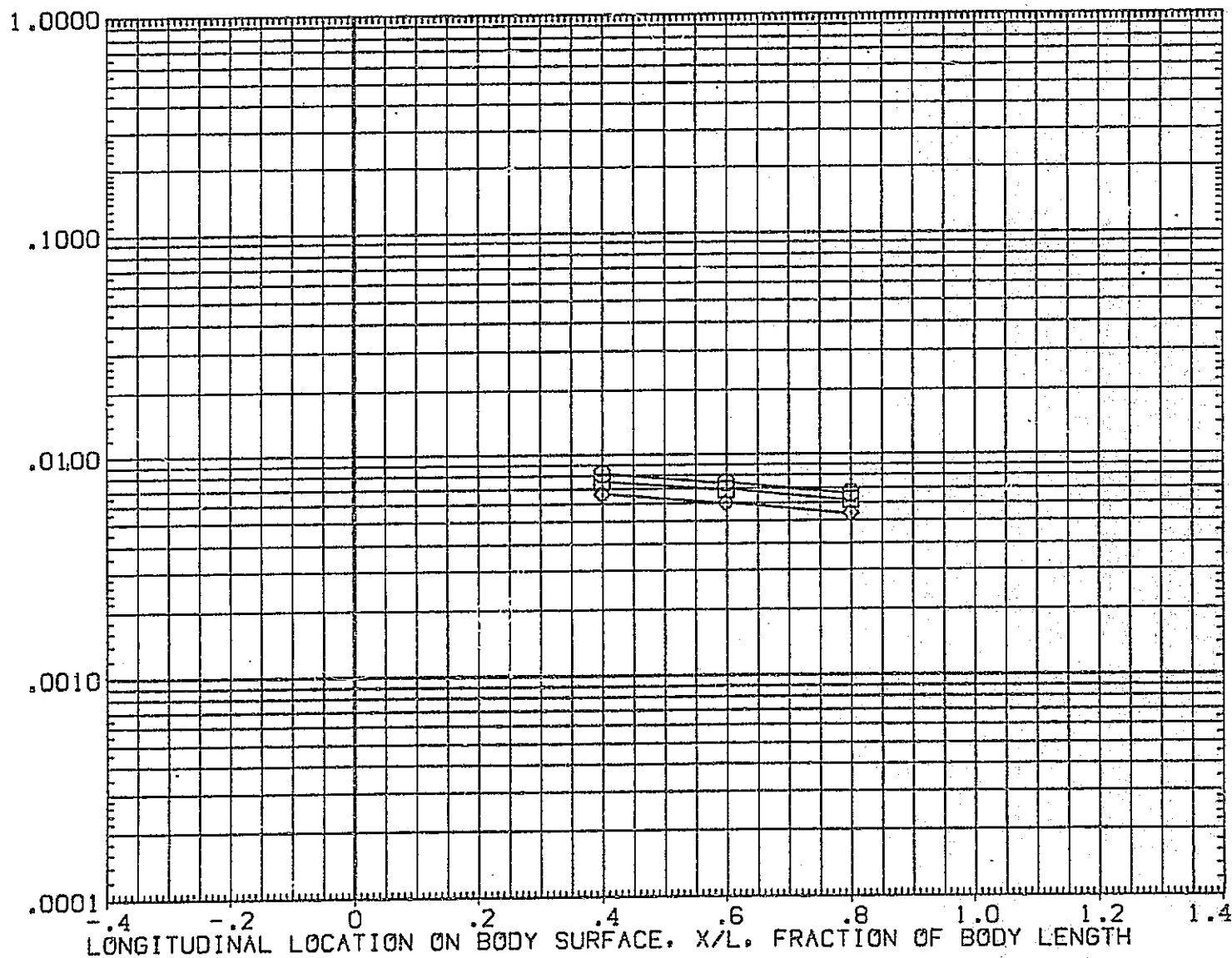


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

SYMBOL	HAW/HT	PHI	ALPHA
□	.850	45.000	10.000
◇	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
MACH	19.900	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

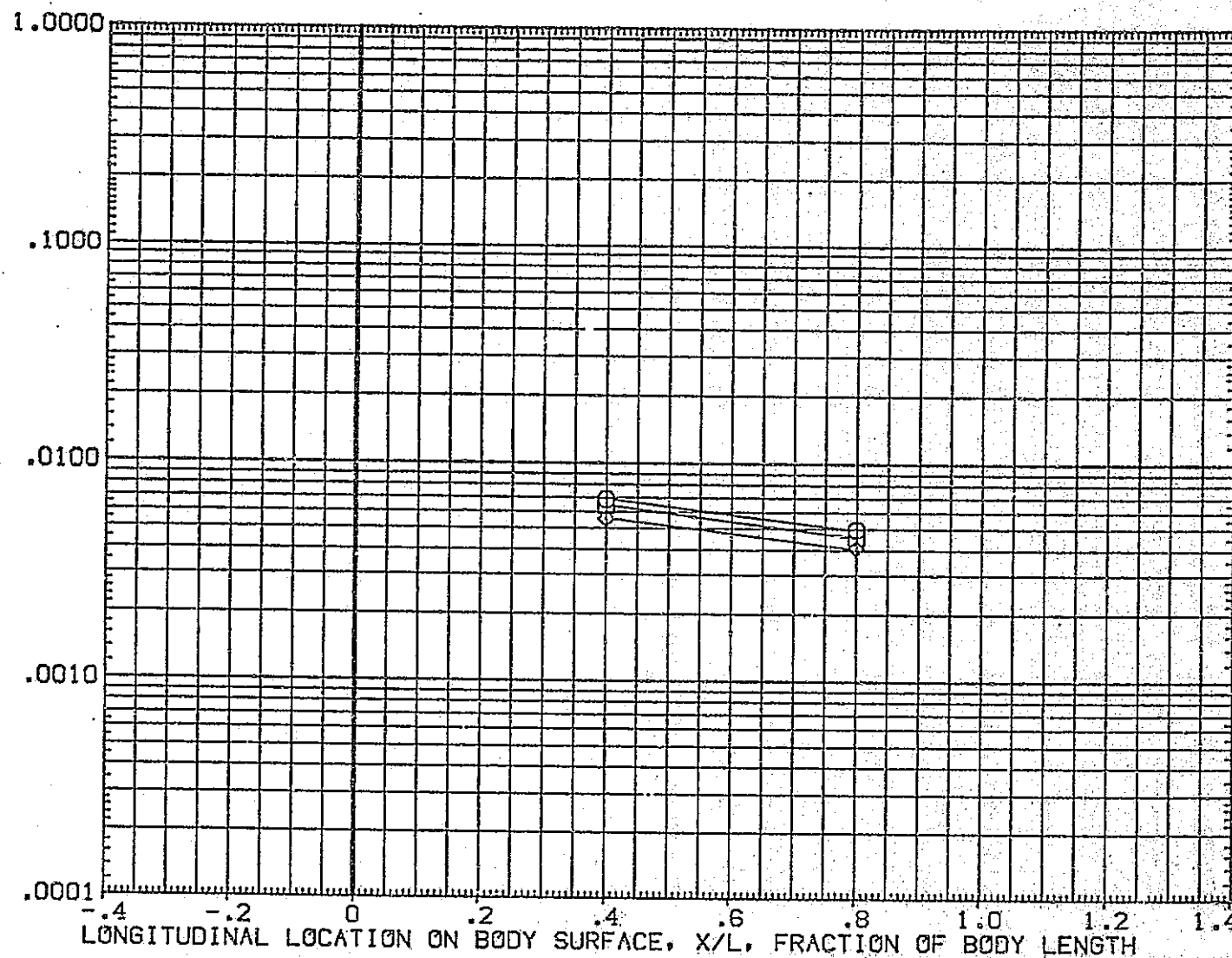


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF



# IH19 B22C7F5M4V7W111 T8 EXTERNAL TANK

(SQETO2)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	67.500	10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	DELTAH	.175
MACH	19.800		

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

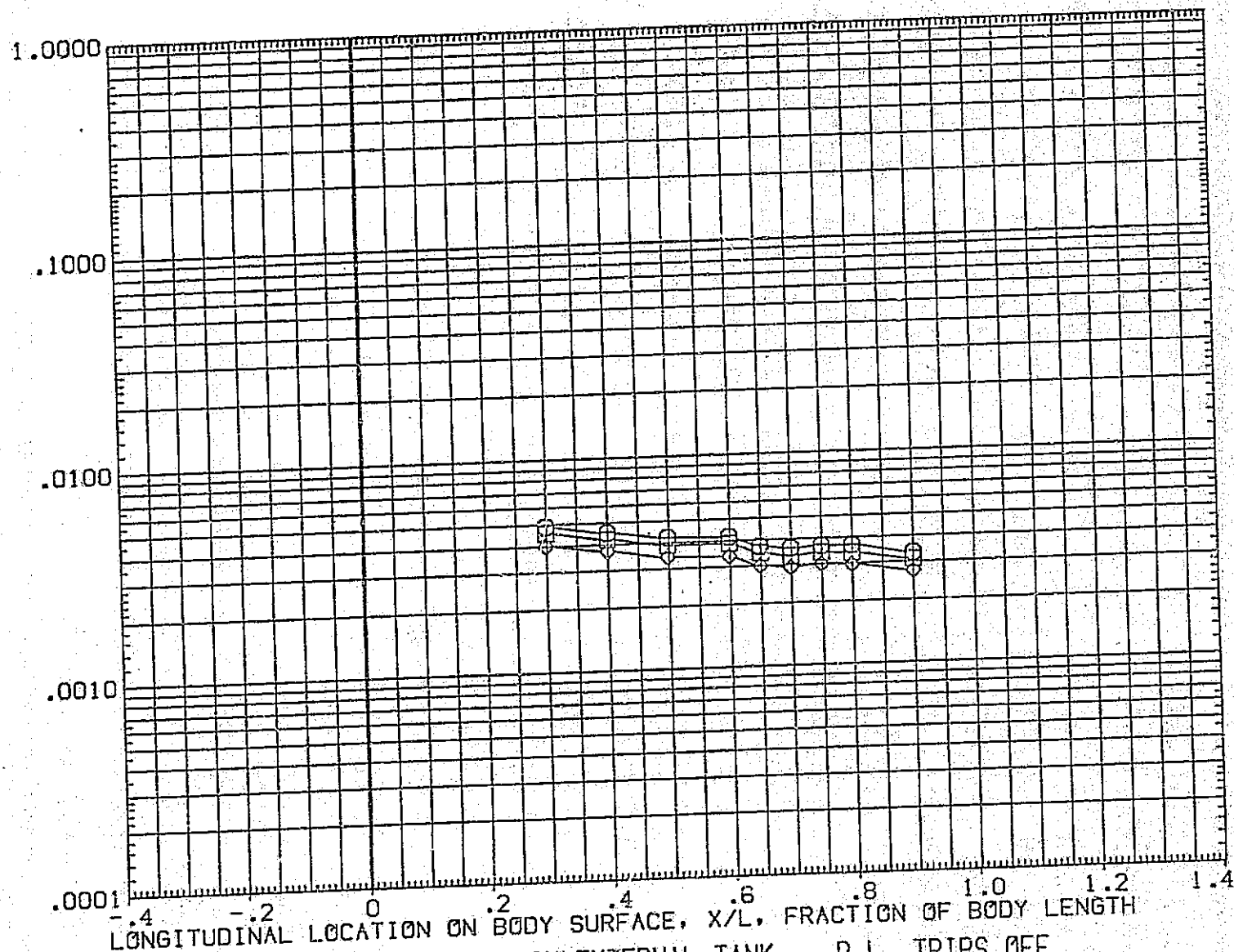


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	90.000	10.000
□	.900		
○	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	DELTAH	.175
MACH	19.800		

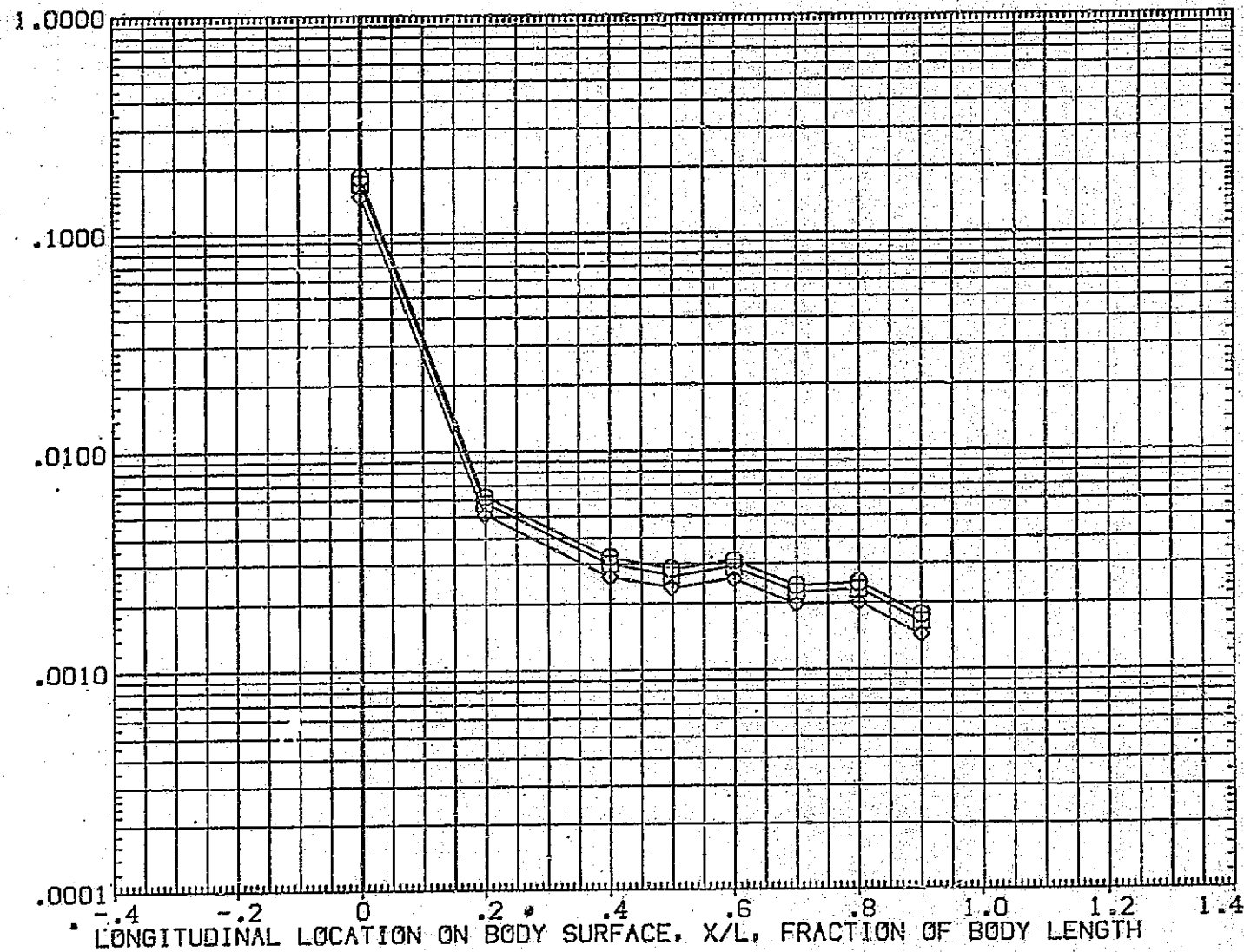
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

IH19 B22C7F5M4V7W111 T8 EXTERNAL TANK

(SQETO2)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	112.500	10.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
HACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

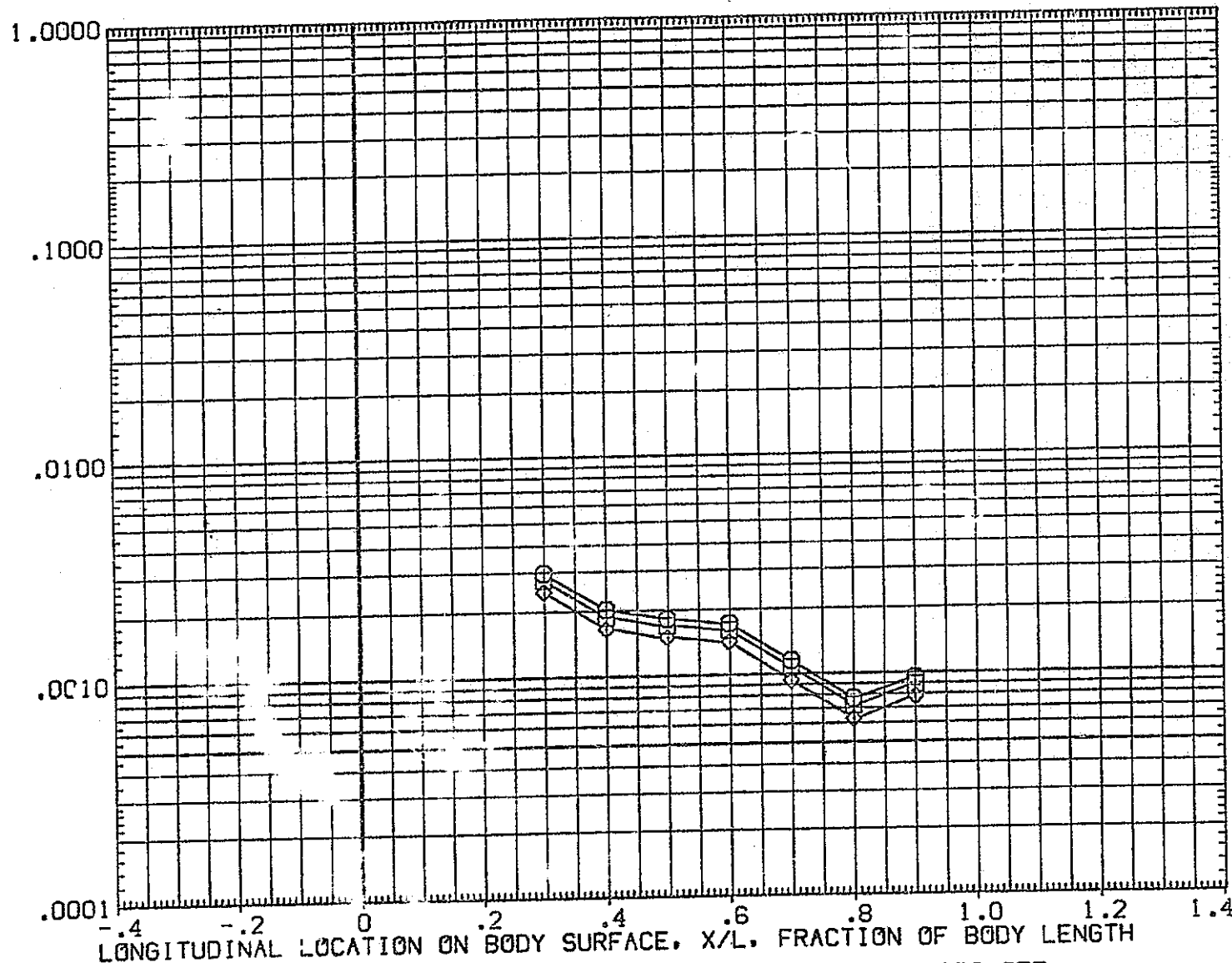


FIG 4 AERodynamic HEAT DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

SYMBOL	HAR/HT	PHI	ALPHA
◇	.850	135.000	10.000
□	.900		
○	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	DELTAH	.175
MACH	19.800		

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

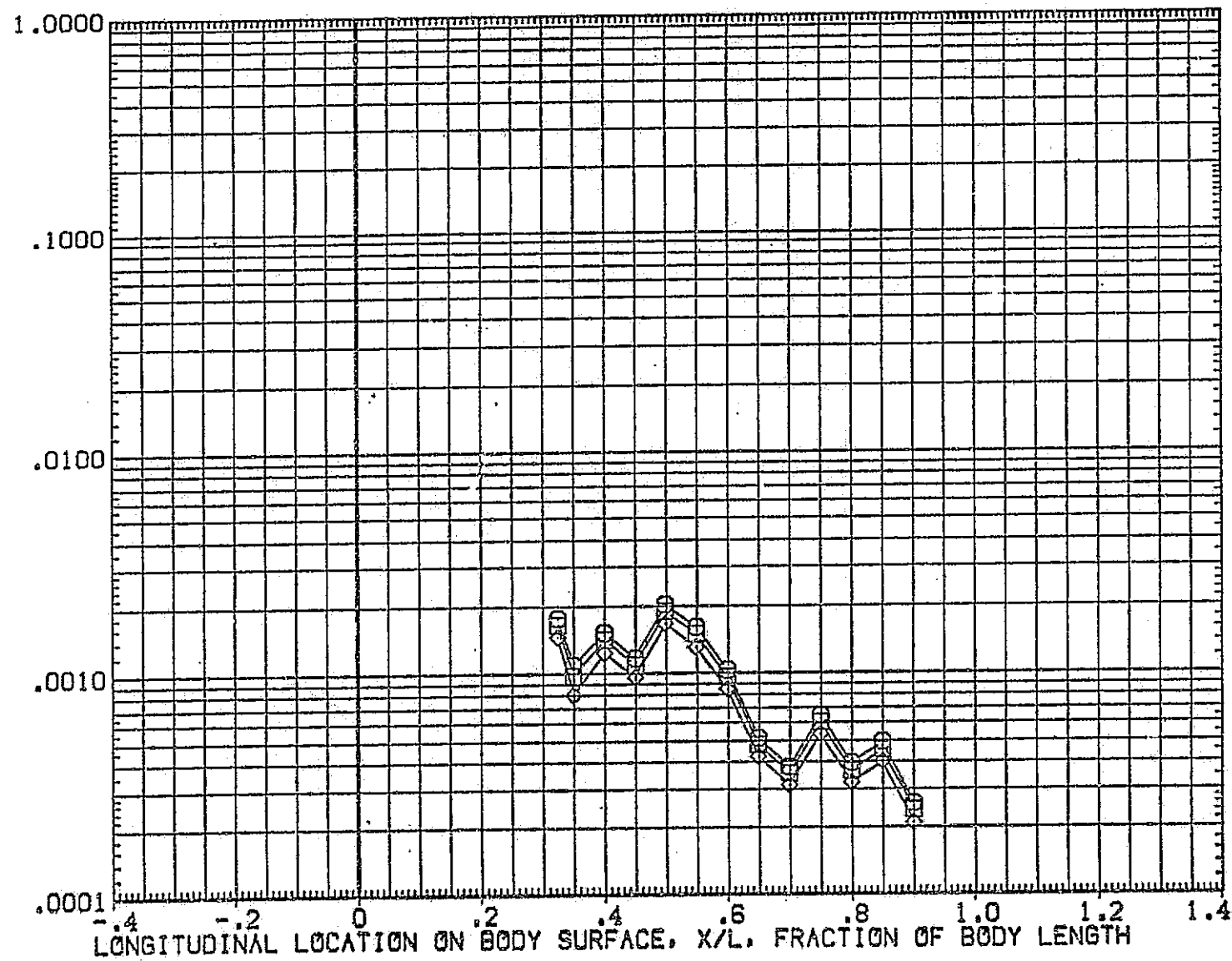


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

SYMBOL	HAW/HT	PHI	ALPHA
◇	.950	157.500	10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
MACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

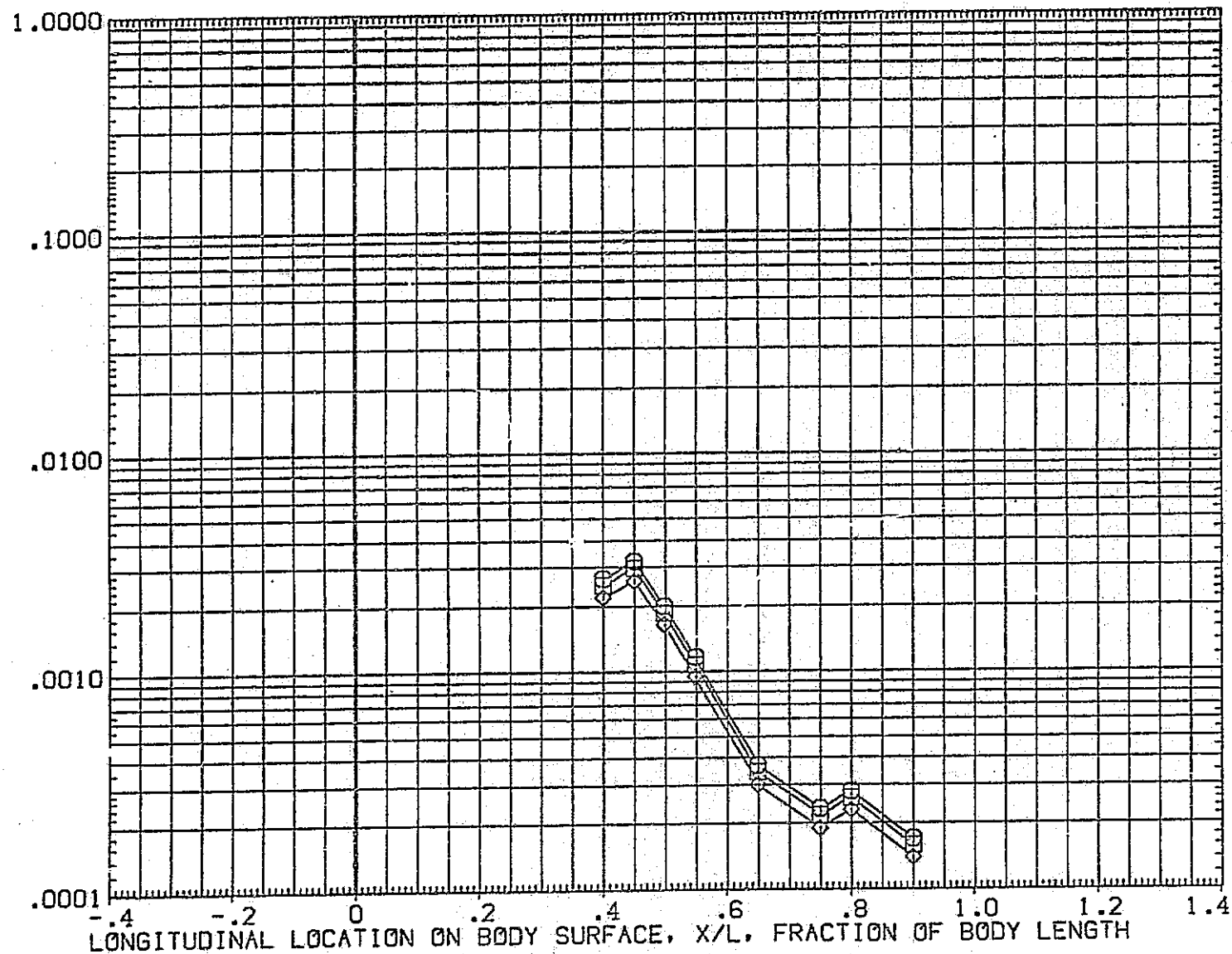


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	180.000	10.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
HACH	19.800	

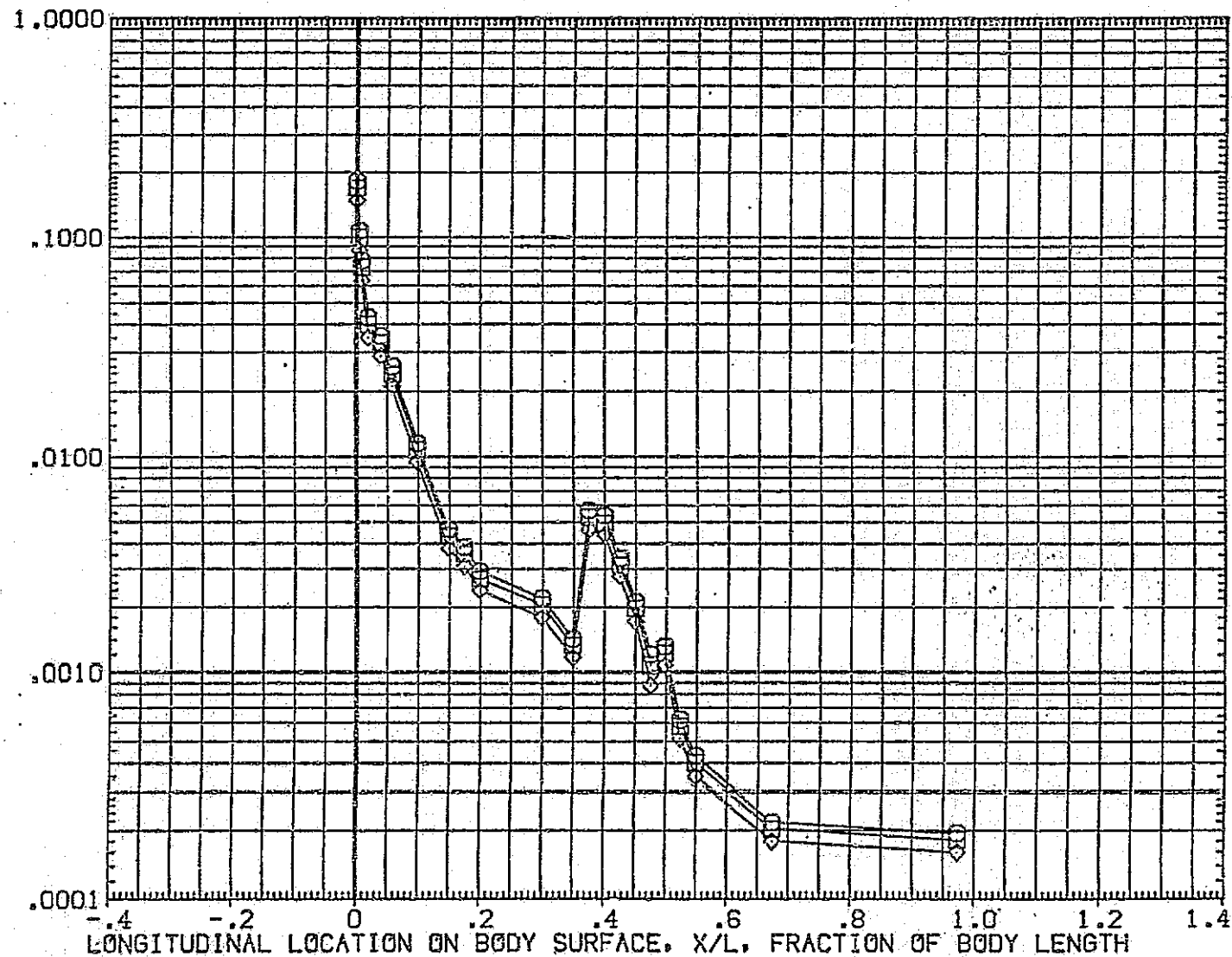
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

# IH19 RATIO (ORB+TANK)/TANK EXTERNAL TANK

(EQET02)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	.000	-10.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	HACH 19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.  $HI/HU$

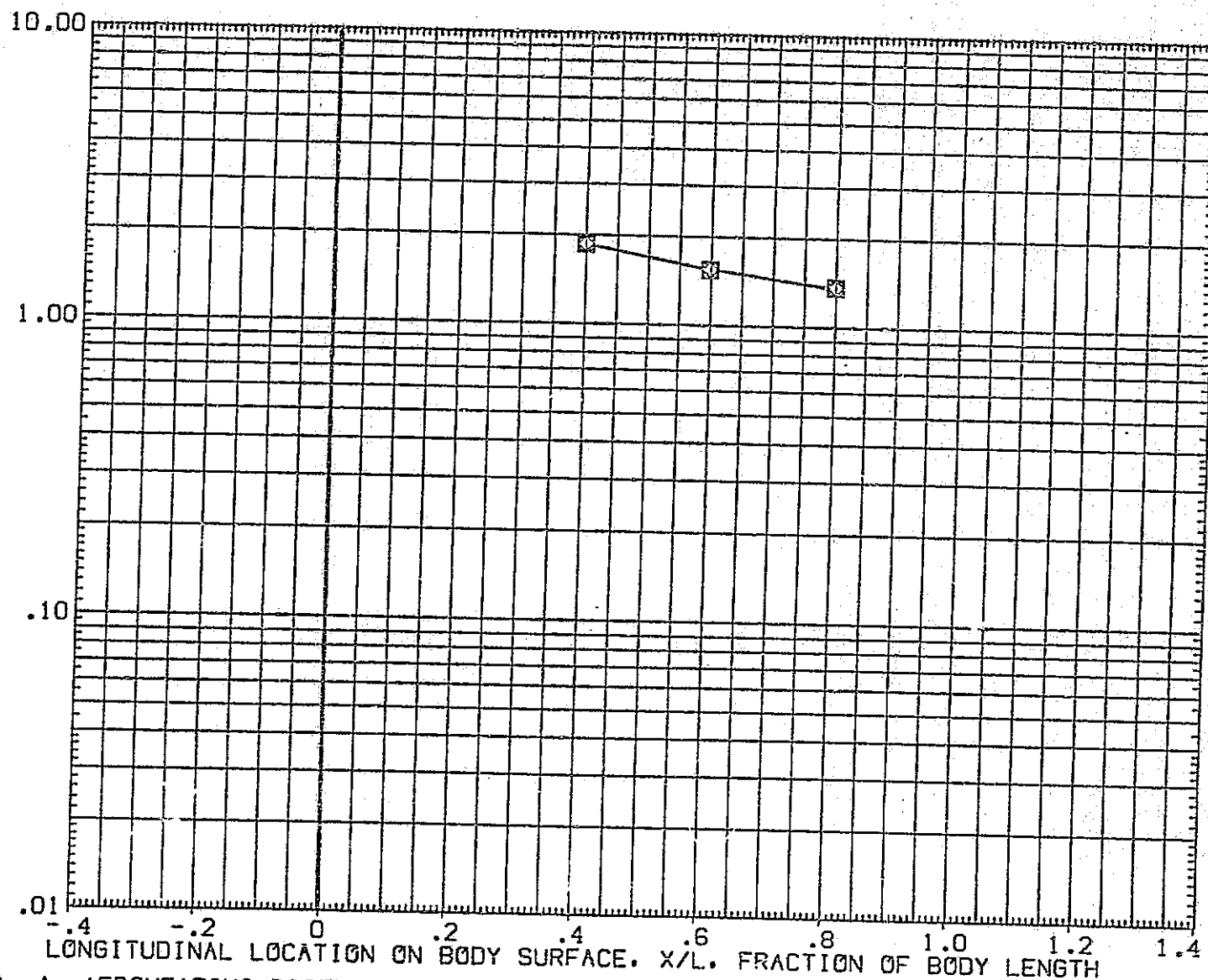


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	45.000	-10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RM/1
BLTRIP	.000	RM/1
		19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.. HI/HU

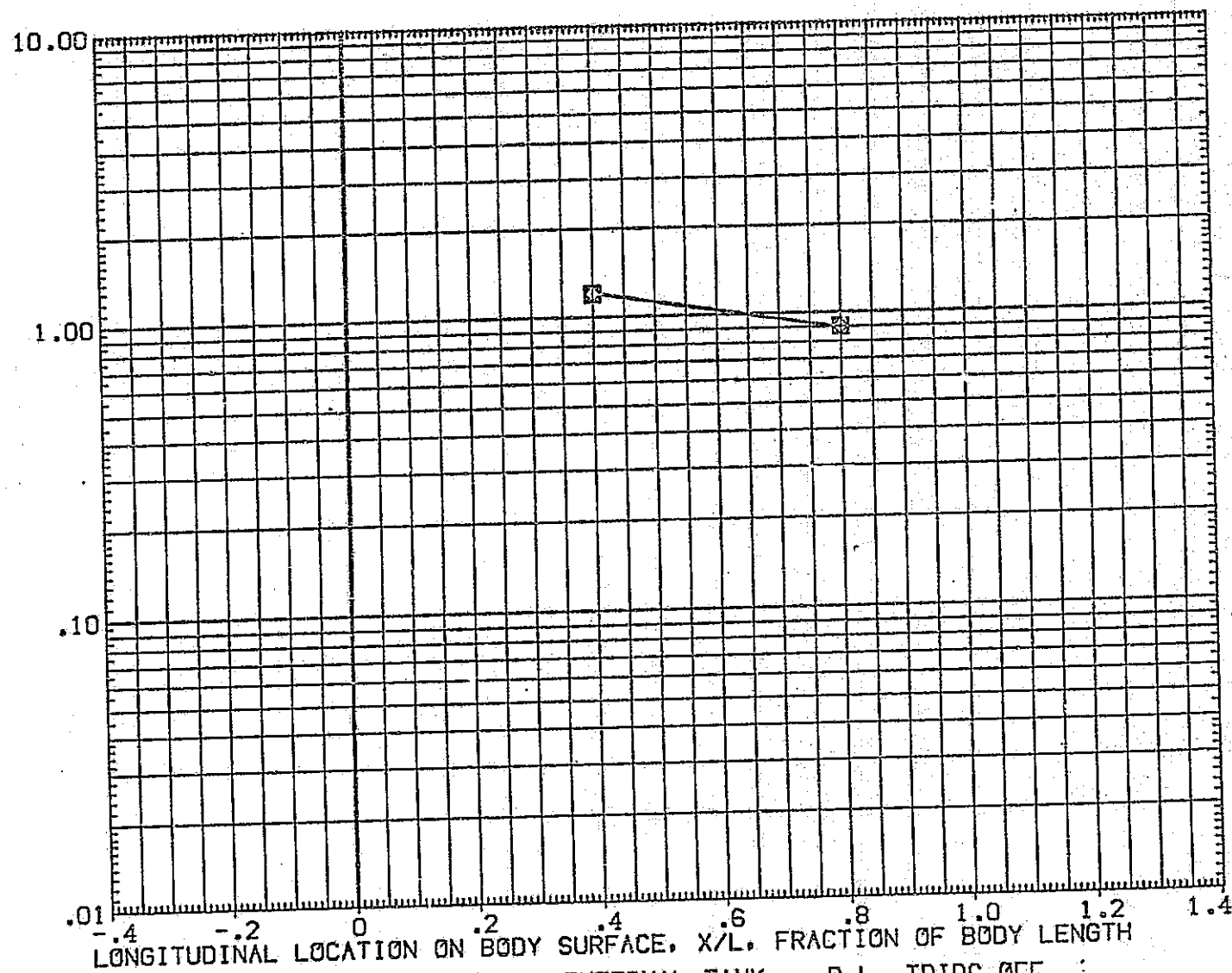
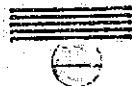


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR





IH19 RATIO (ORB+TANK)/TANK EXTERNAL TANK

(EQET02)

SYMBOL  
◇ □ ○

HAW/HT  
.850  
.900  
1.000

PHI  
67.500

ALPHA  
-10.000

BETA  
BLTRIP

PARAMETRIC VALUES  
RN/L  
MACH

.500  
19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF., HI/HU

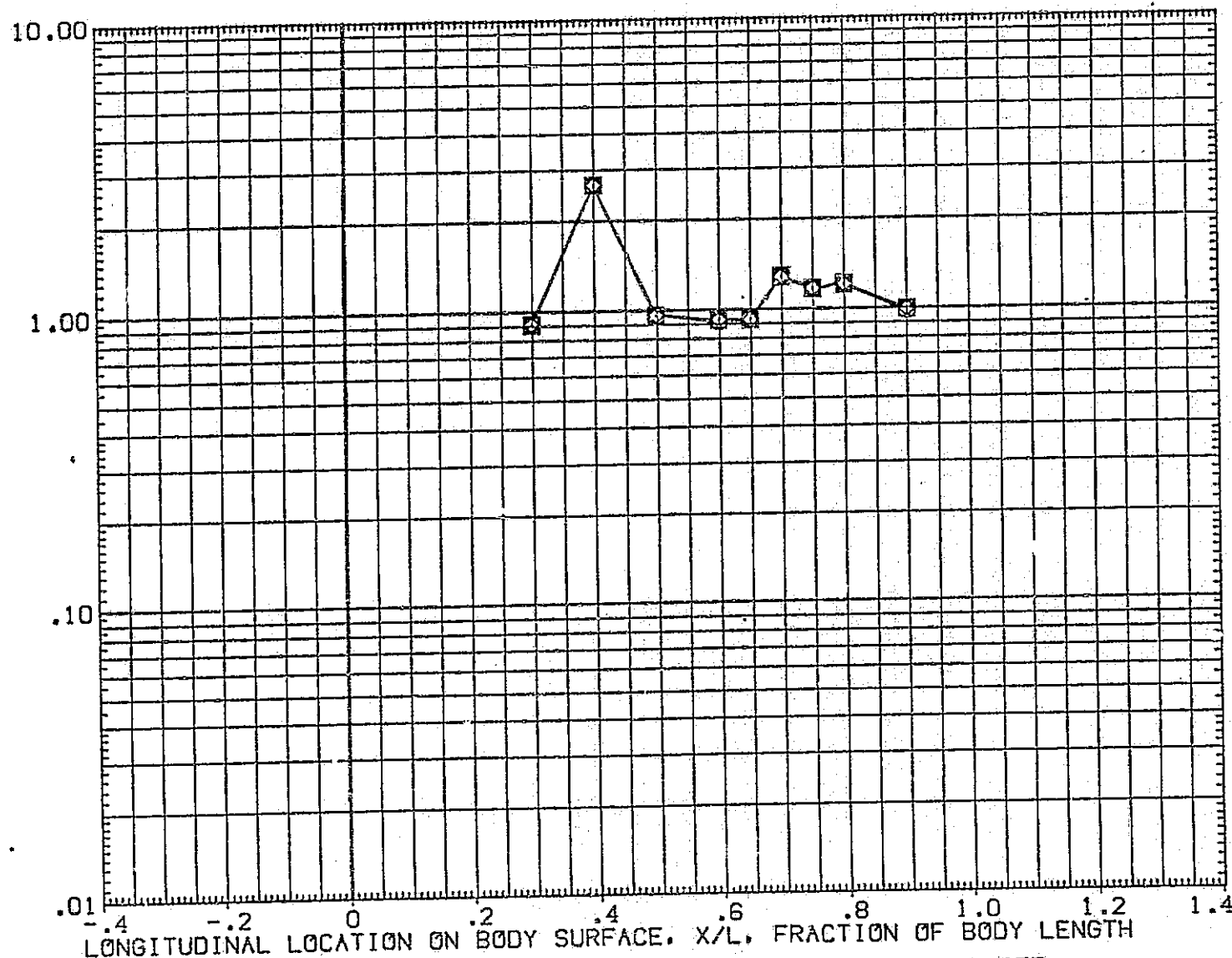


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

SYMBOL

HAW/HT

PHI

ALPHA

PARAMETRIC VALUES

○  
□  
◇

.850  
.900  
1.000

90.000

-10.00°

BETA  
BLTRIP

.000  
.000

RN/L  
MACH

.500  
19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.. HI/HU

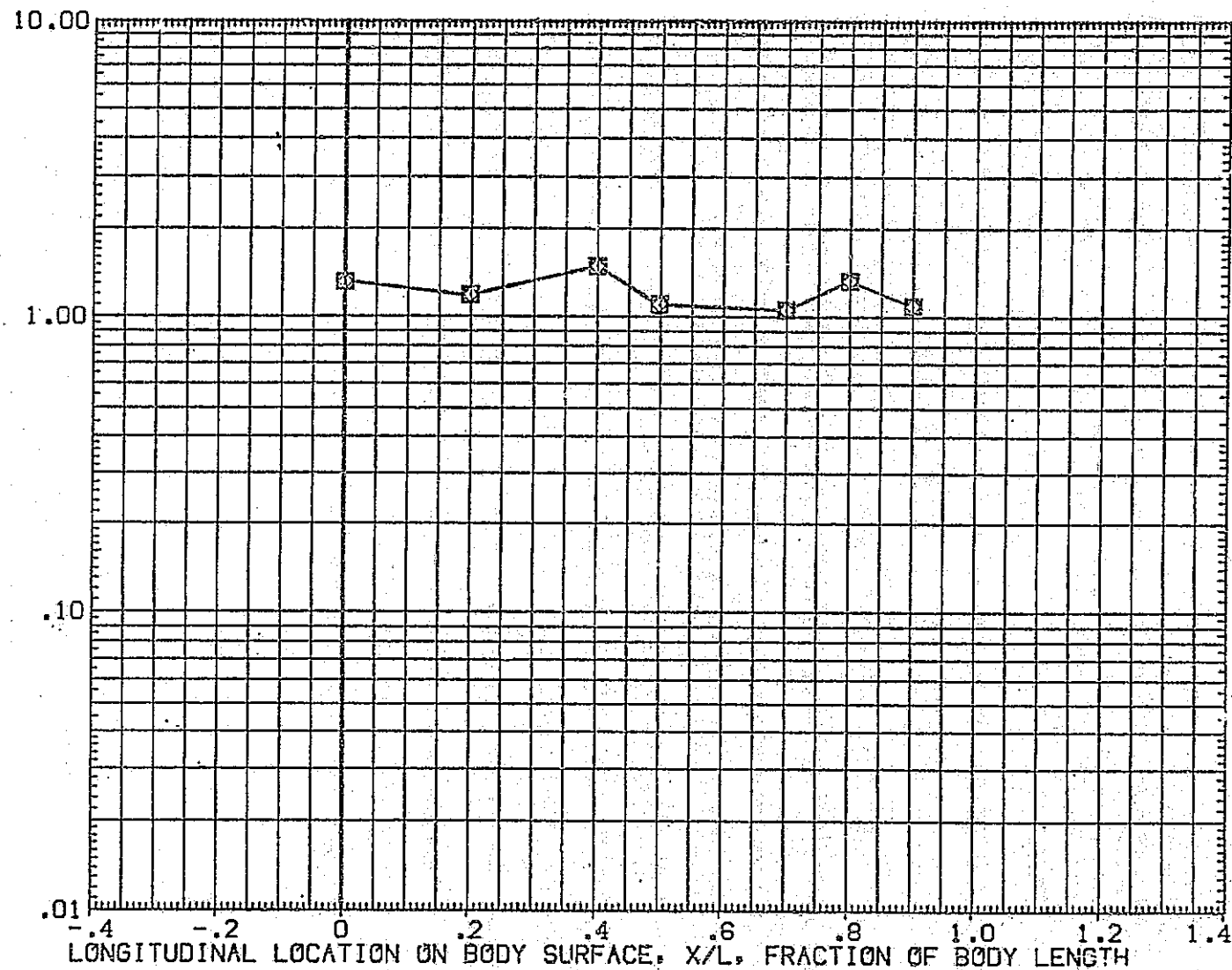


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

IH19 RATIO (ORB+TANK)/TANK EXTERNAL TANK

(EQETO2)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	112.500	-10.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

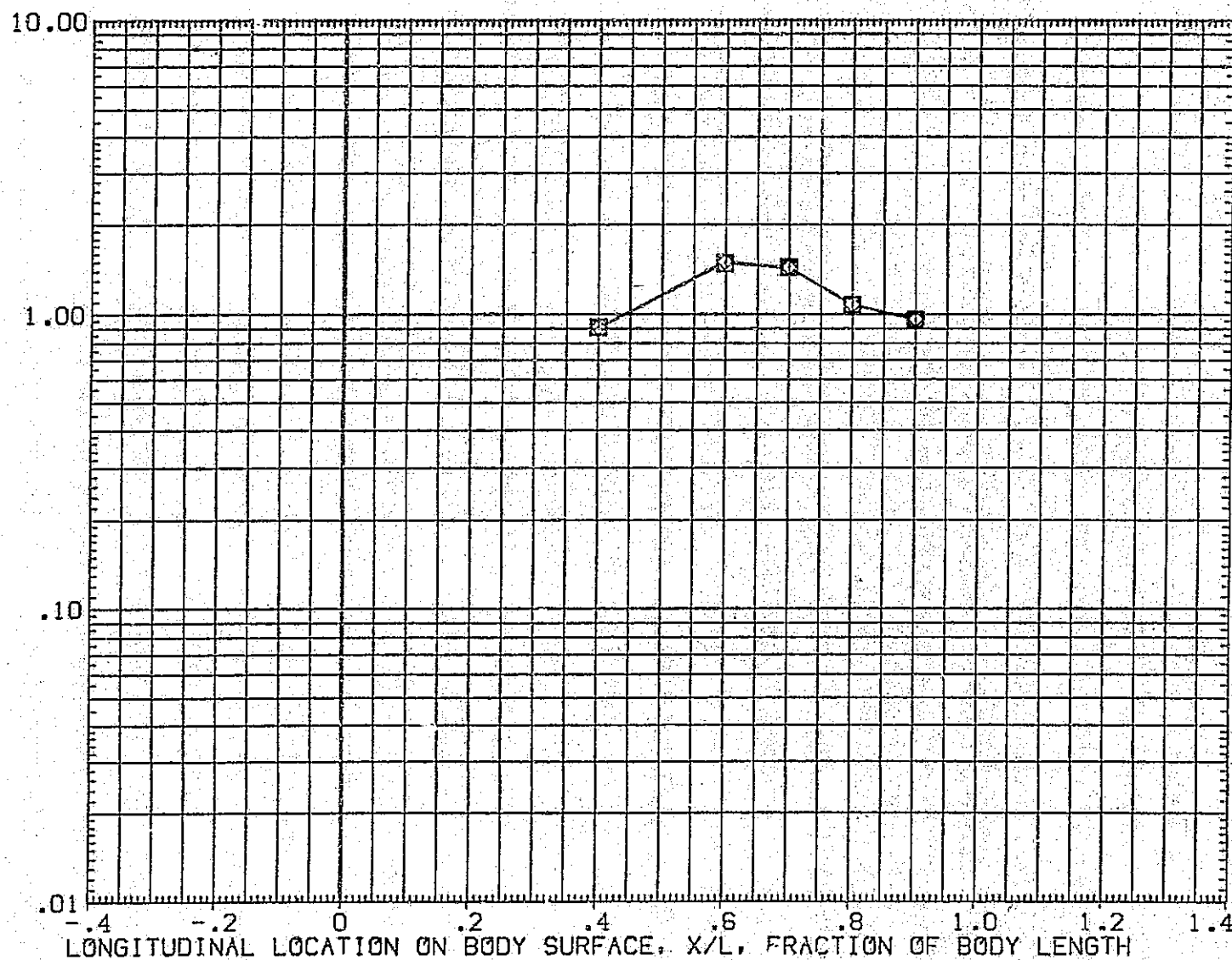
RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $HI/HU$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

SYMBOL    HAH/HT    PHI    ALPHA  
 ◇    .850    135.000    -10.000  
     .900  
     1.000

BETA    PARAMETRIC VALUES  
 BLTRIP    .000    RN/L    .500  
           .000    MACH    19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $HI/HU$

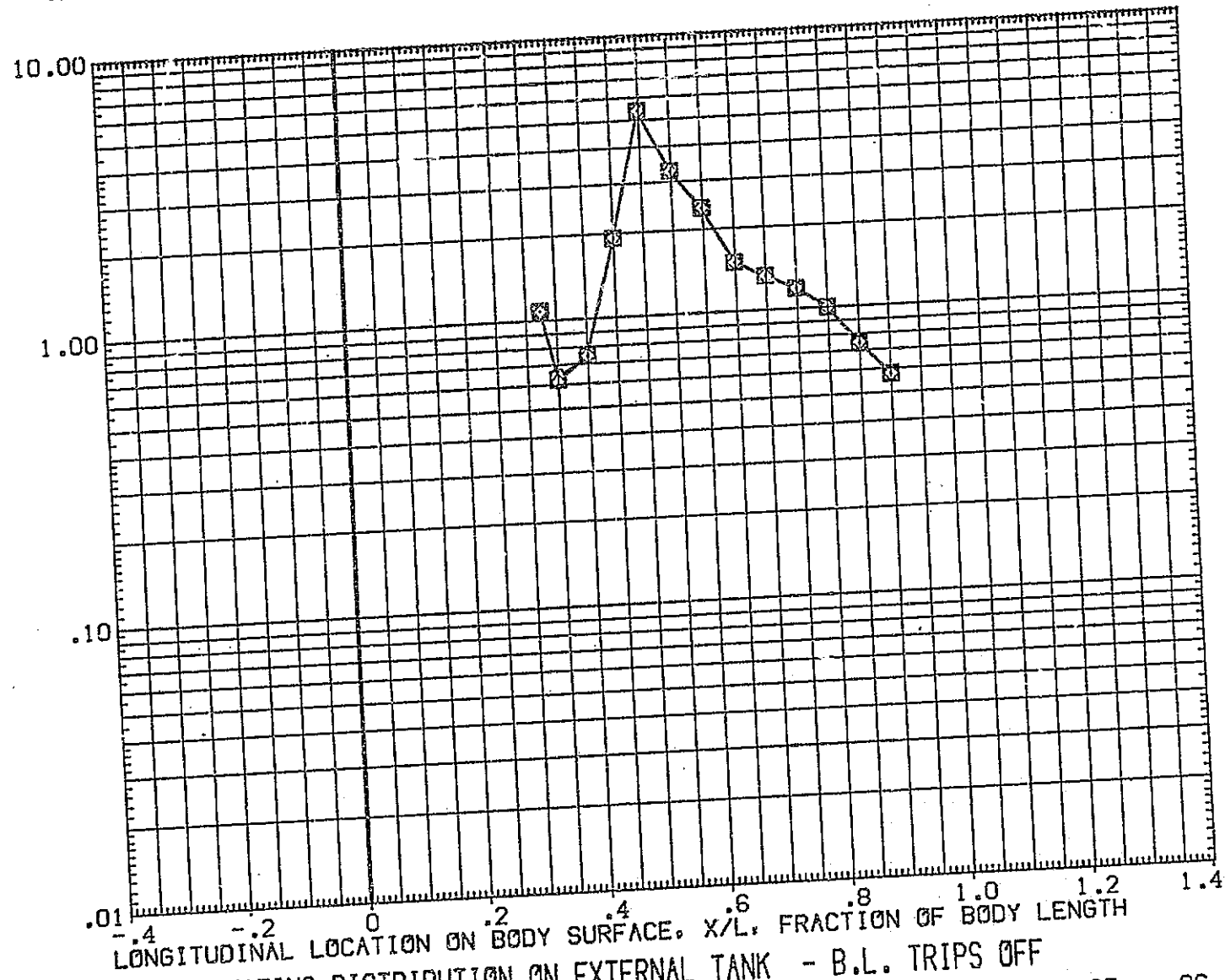


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

REPRODUCIBILITY OF THE  
 ORIGINAL PAGE IS POOR

IH19 RATIO (ORB+TANK)/TANK EXTERNAL TANK

(EQETO2)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	157.500	-10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	MACH	19.800

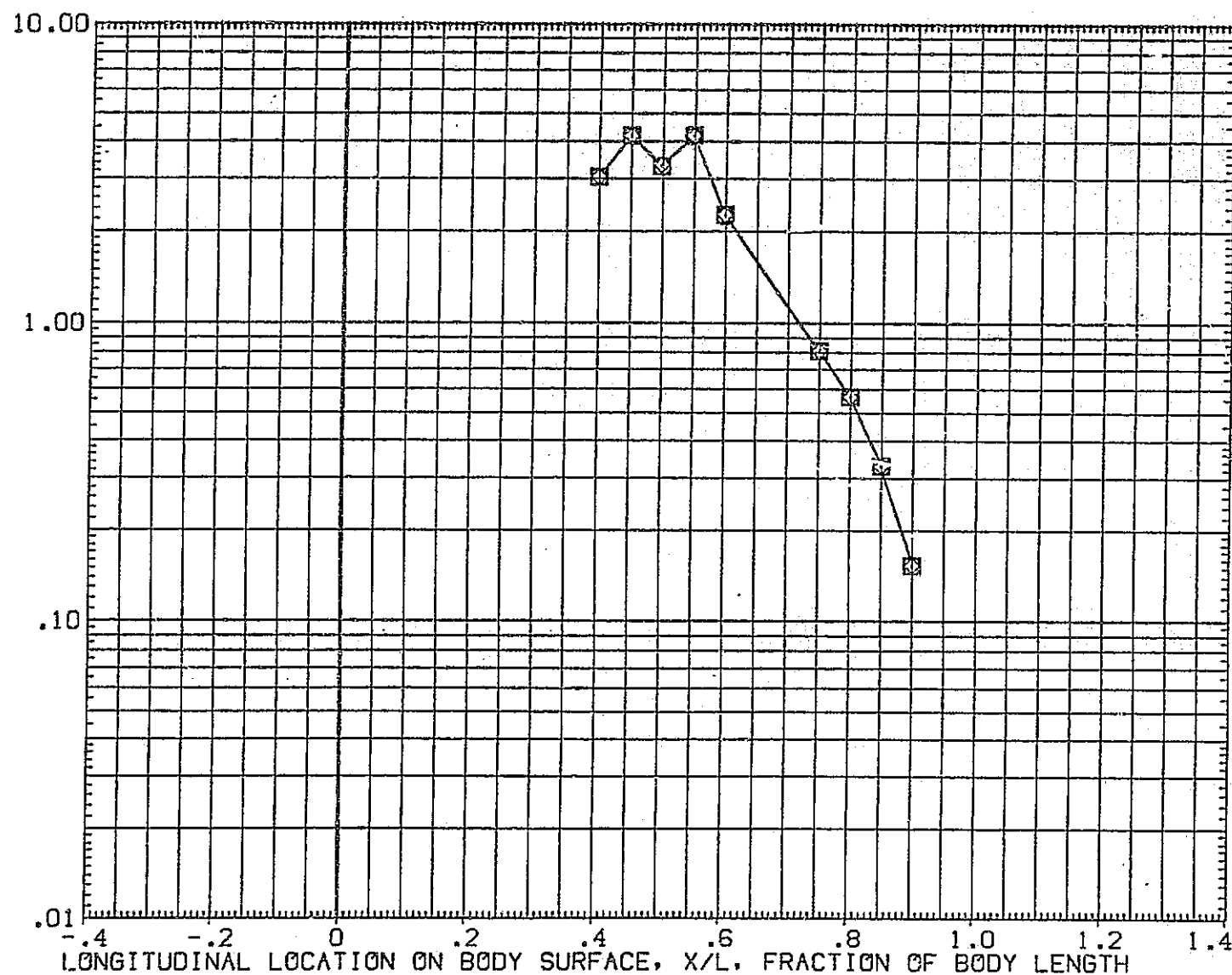
RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $HI/HU$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

SYMBOL

HAY/HT

PHI

ALPHA

PARAMETRIC VALUES

BETA  
BLTRIP.000 RN/L  
.000 MACH.500  
19.800RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $HI/HU$ 

$\diamond$   $\square$   $\circ$   
 $\square$   $\square$   $\square$

.850  
 .900  
 1.000

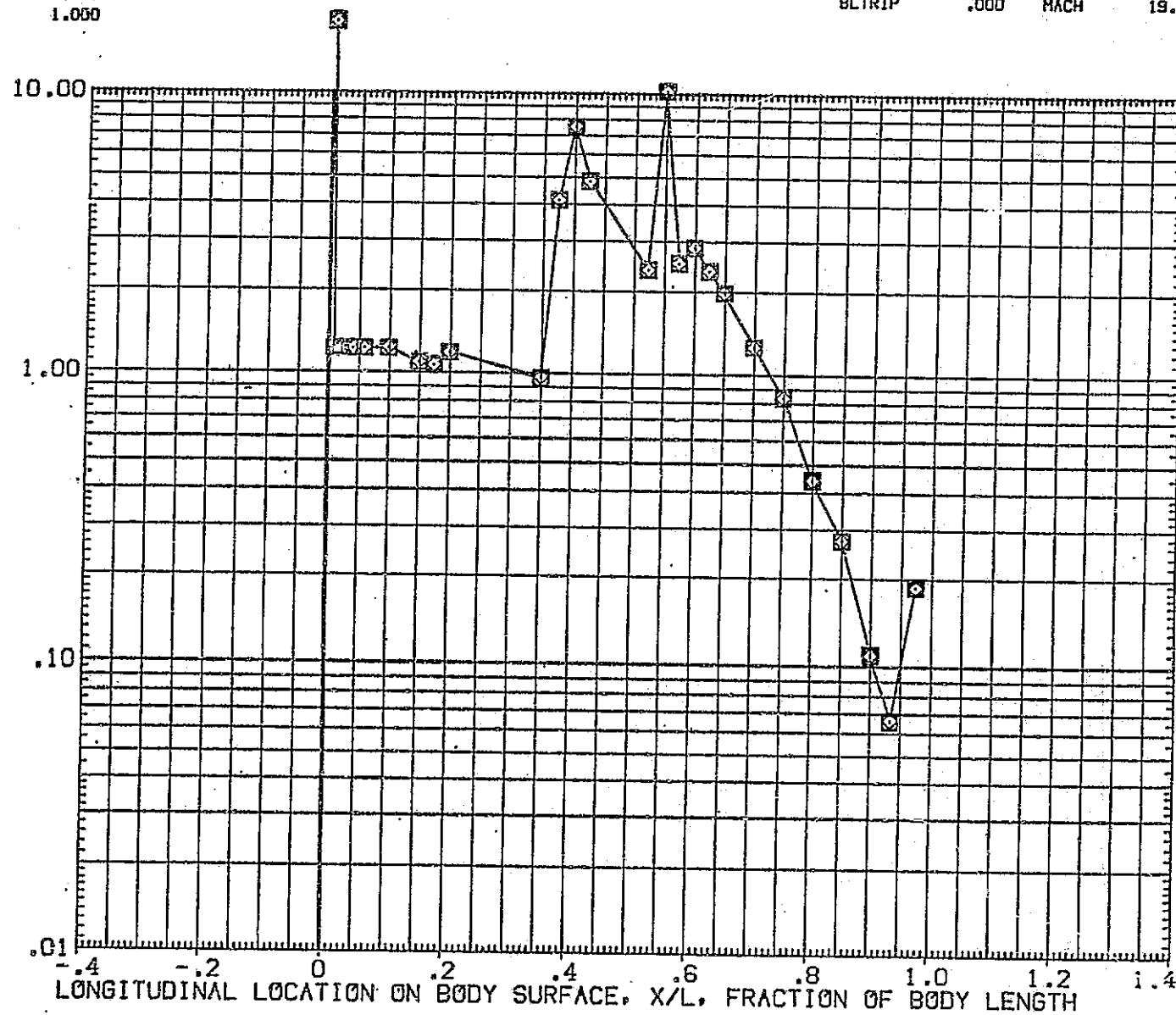


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

IH19 RATIO (ORB+TANK)/TANK EXTERNAL TANK

(EQETO2)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	.000	-5.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

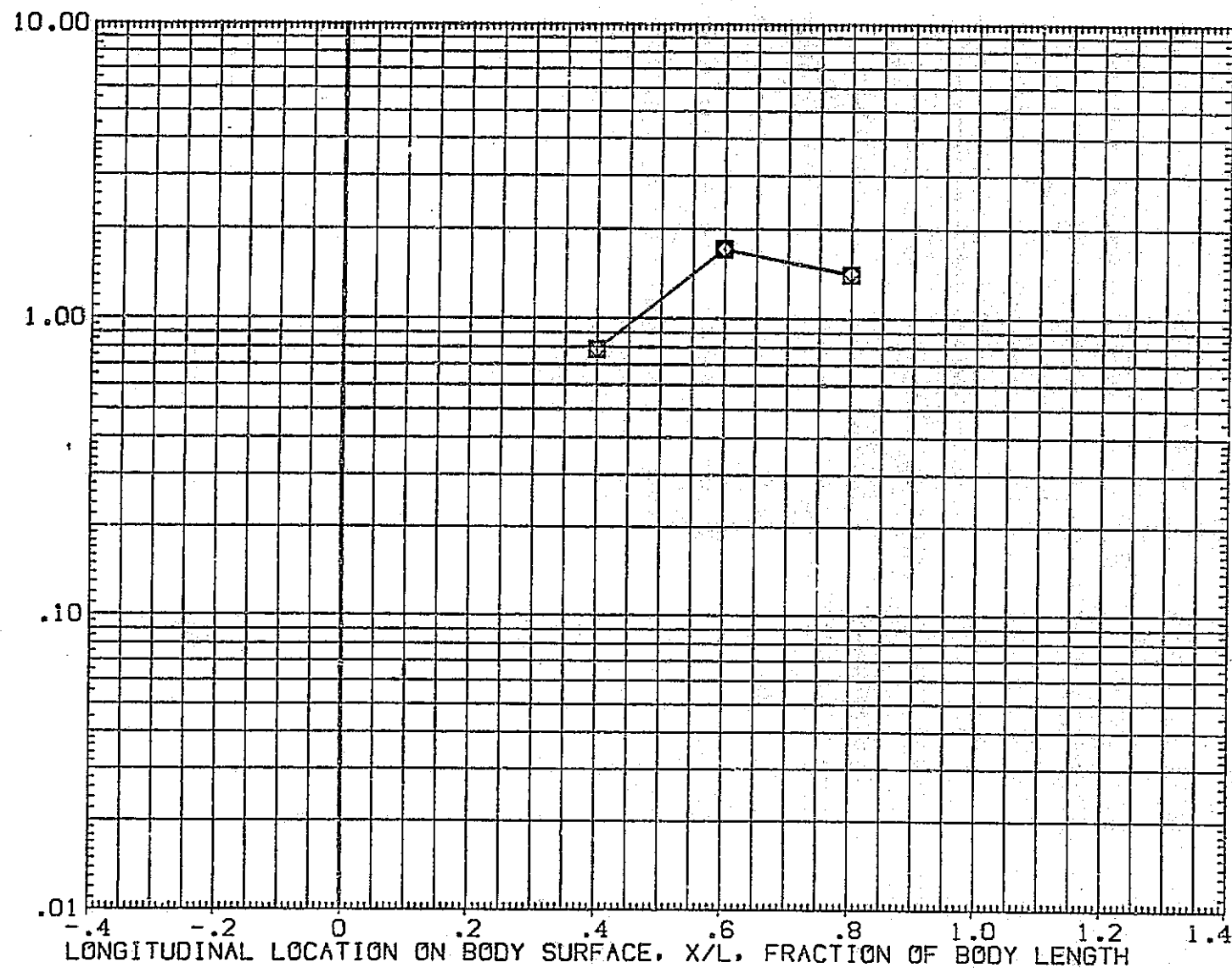
RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $HI/HU$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	45.000	-5.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

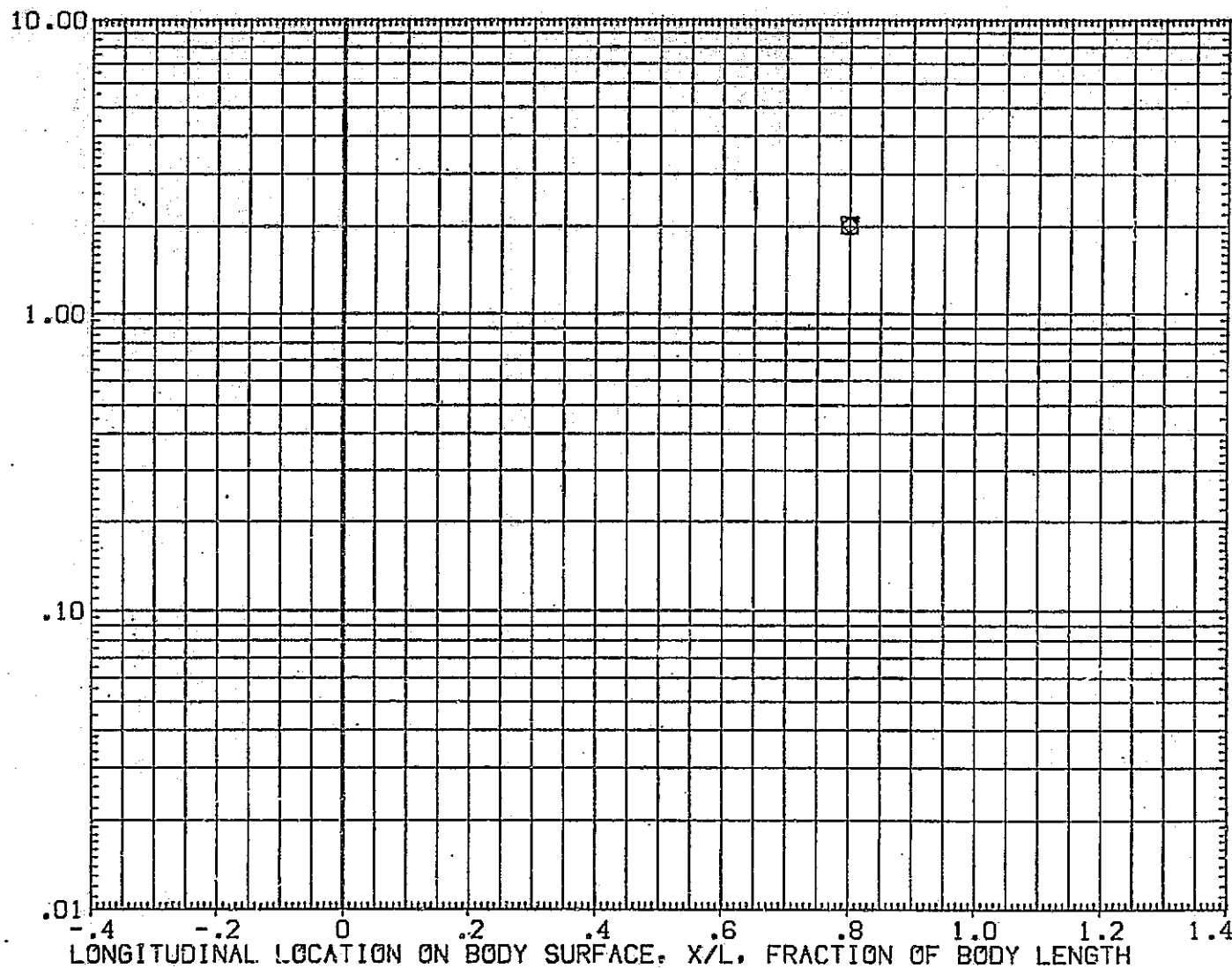
RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $H_i/H_u$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF



# IH19 RATIO (ORB+TANK)/TANK EXTERNAL TANK

(EGET02)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	67.500	-5.000
□	.900		
□	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	MACH	19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $HI/HU$

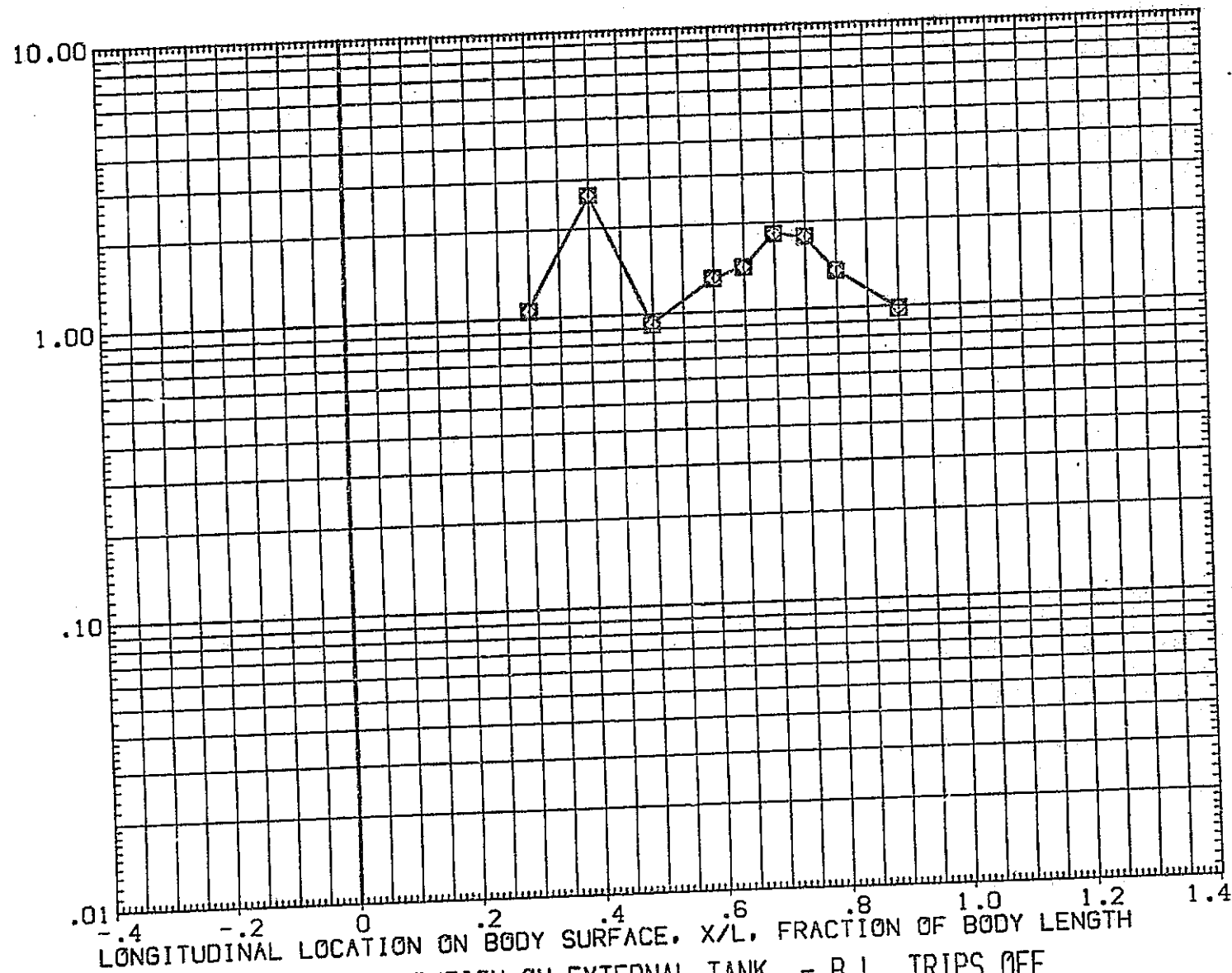


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

SYMBOL

HAW/HT

PHI

ALPHA

BETA

PARAMETRIC VALUES

BLTRIP

.000

RN/L

.500

MACH

19.800

$\diamond$   
 $\square$   
 $\square$   
 $\square$

.850  
 .900  
 1.000

90.000

-5.000

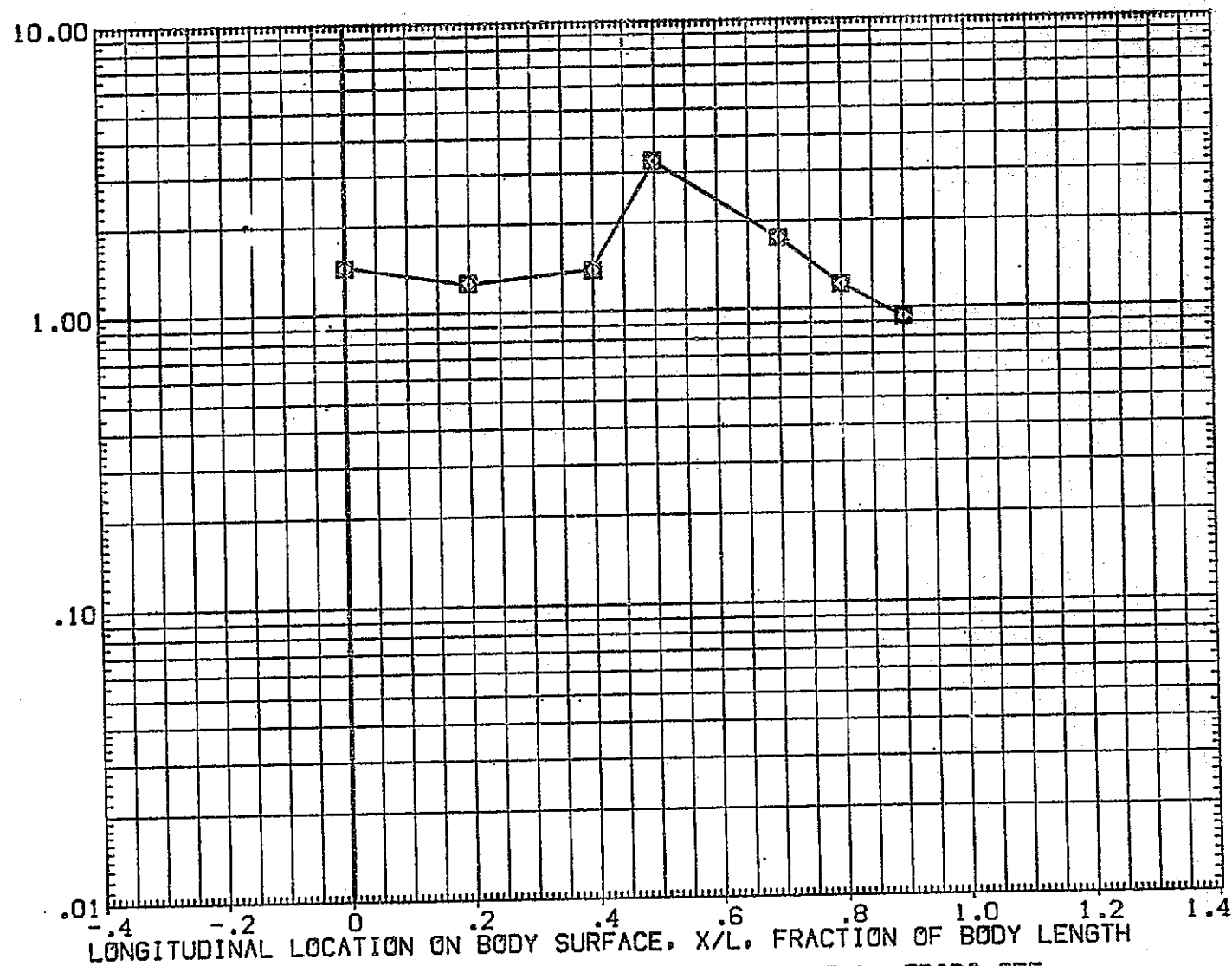
RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $HI/HU$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

REPRODUCIBILITY OF THE  
 ORIGINAL PAGE IS POOR

## IH19 RATIO (ORB+TANK)/TANK EXTERNAL TANK

(EQETO2)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	112.500	-5.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

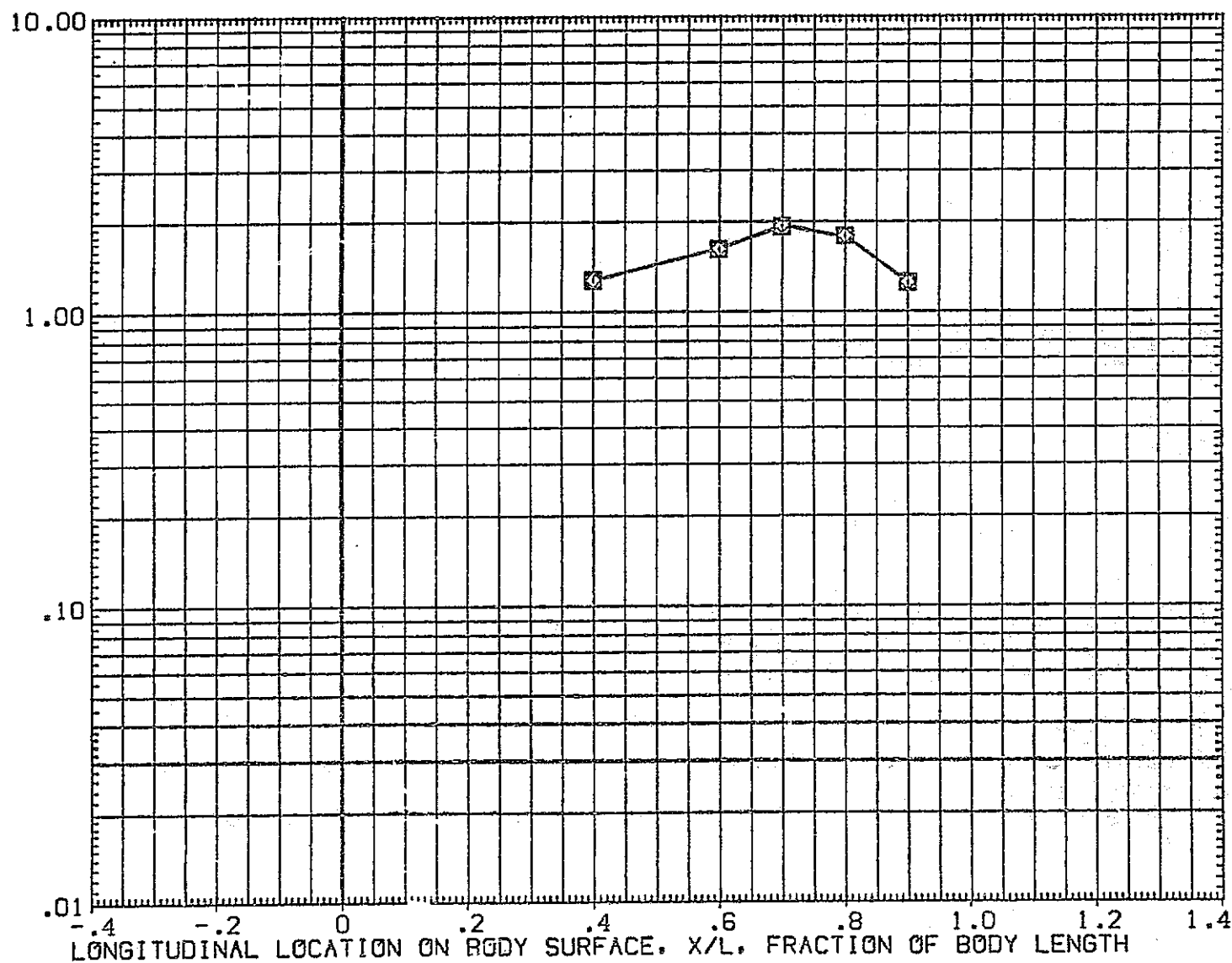
RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $HI/HU$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	135.000	-5.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RM/L .500
BLTRIP	.000	MACH 19.800

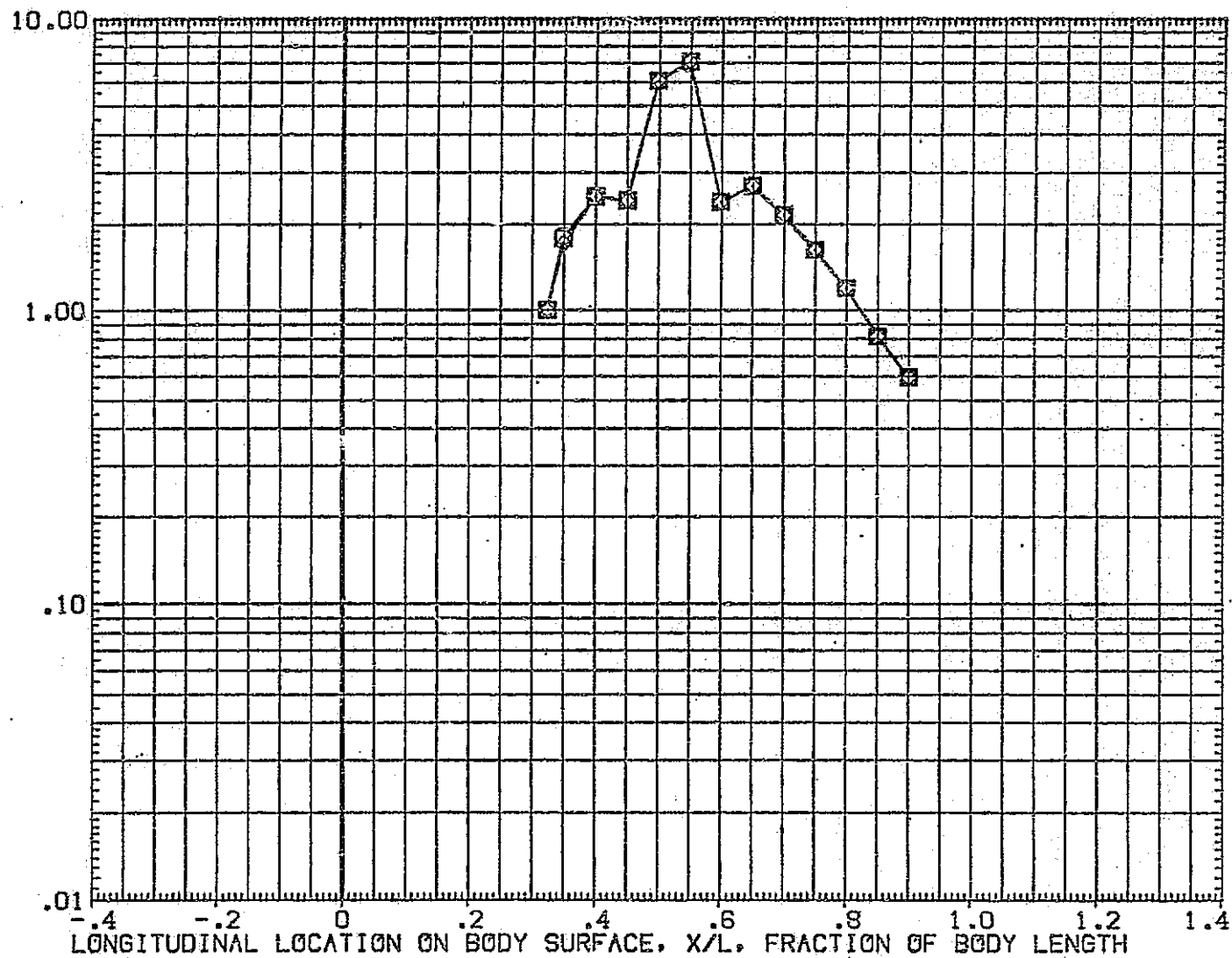
RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $H_i/H_u$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

IH19 RATIO (ORB+TANK)/TANK EXTERNAL TANK

(EQET02)

SYMBOL

HAW/HT

PHI

ALPHA

PARAMETRIC VALUES

BETA

.000

RN/L

.500

BLTRIP

.000

HACH

19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $HI/HU$ 

$\diamond$   
 $\square$   
 $\square$   
 $\square$

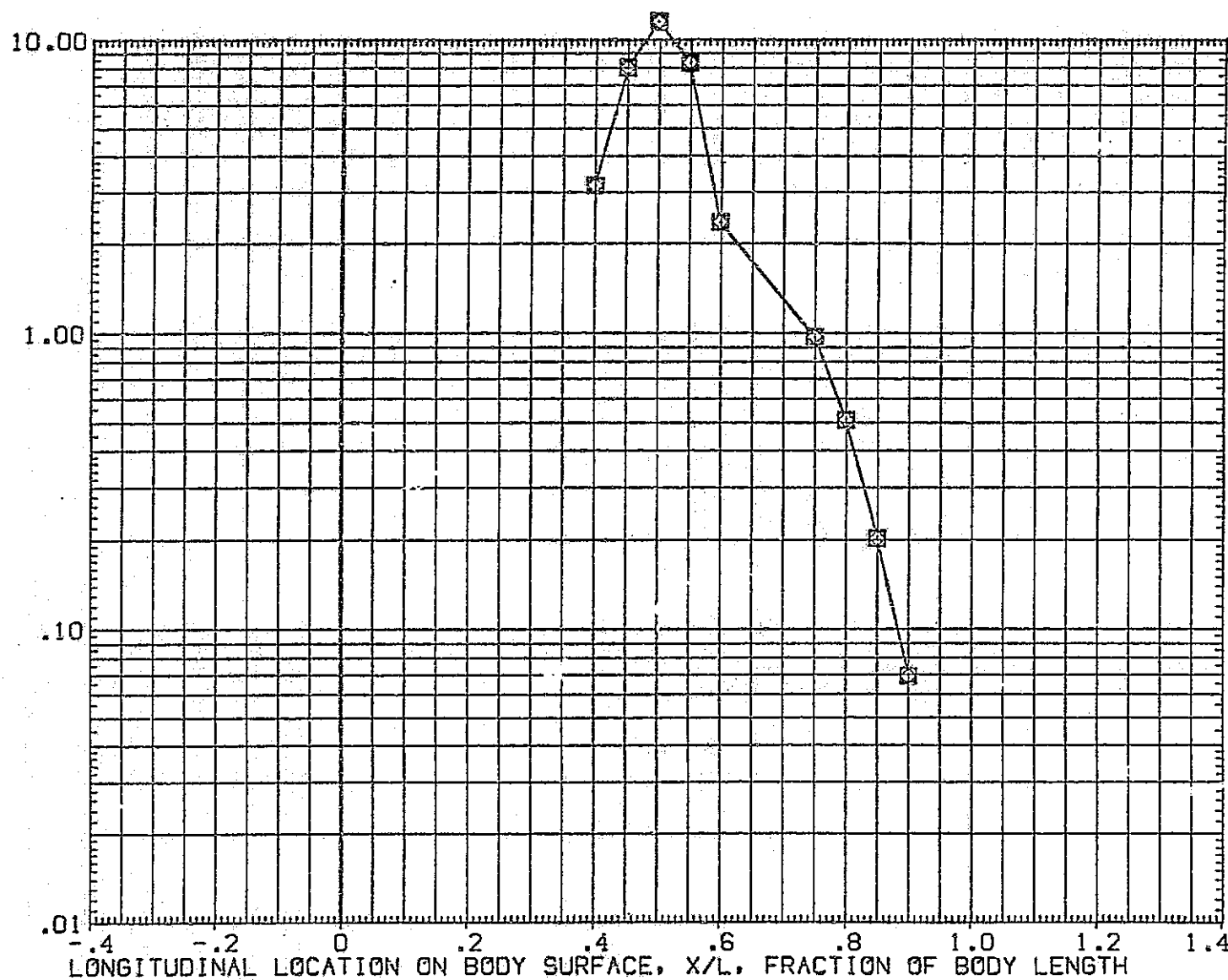


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

SYMBOL	HAY/HT	PHI	ALPHA
◇	.850	180.000	-5.000
□	.950		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.600

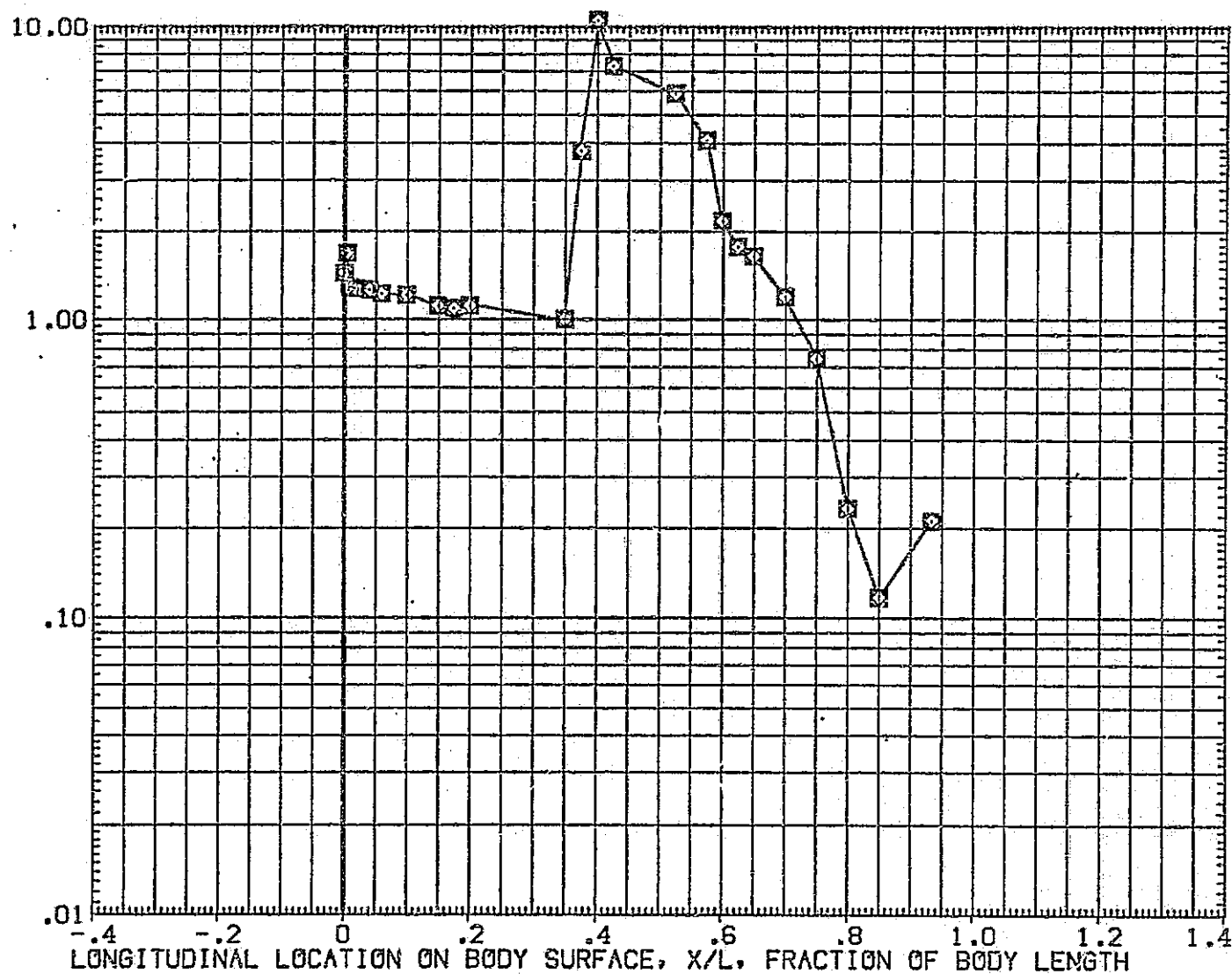
RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $H_i/H_u$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

IH19 RATIO (ORB+TANK)/TANK EXTERNAL TANK

(EQET02)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	.000	.000
□	.900		
○	1.000		

BETA	BLTRIP

PARAMETRIC VALUES

RN/L	MACH
.500	19.800

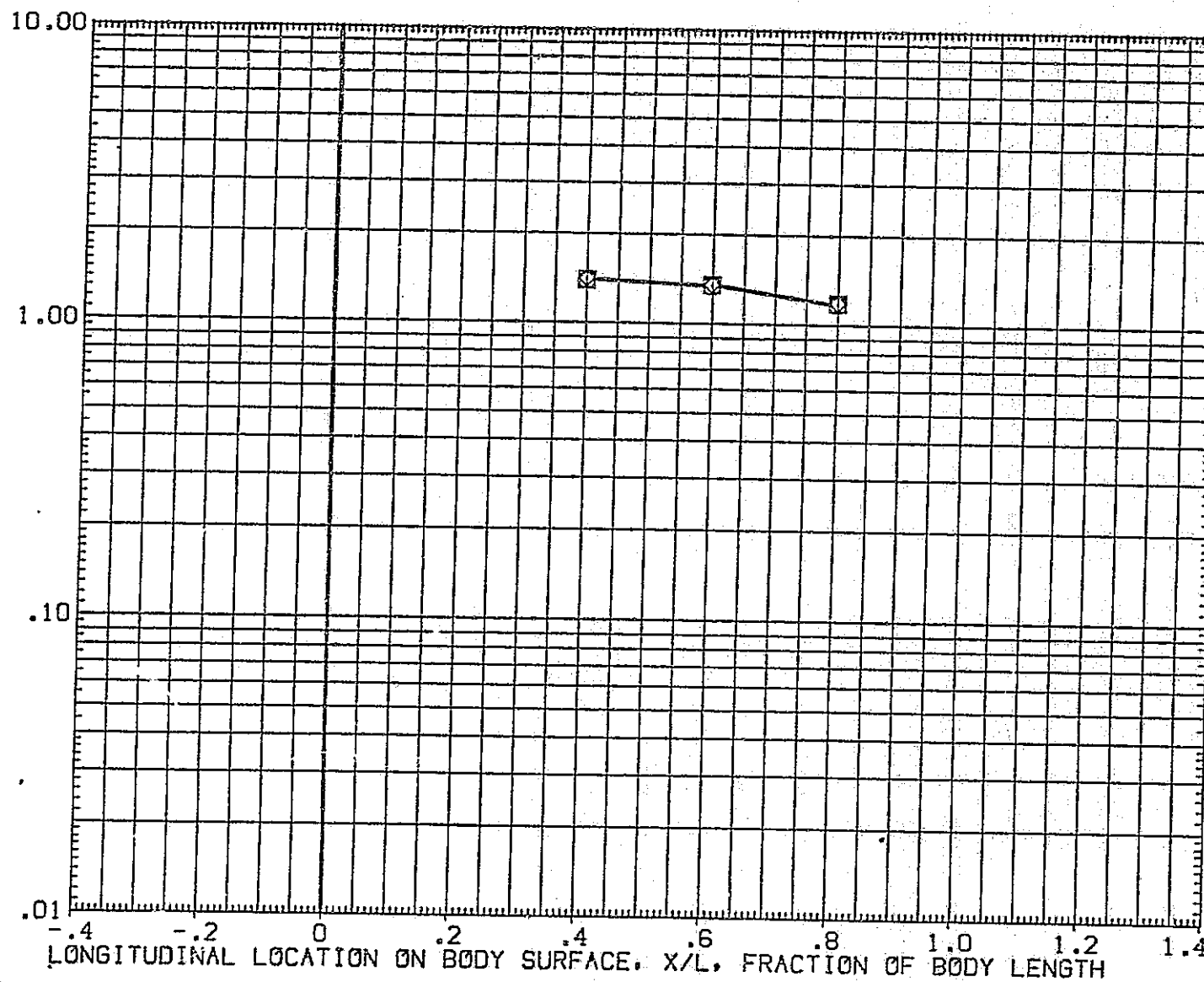
RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $H_i/H_u$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

IH19 RATIO (ORB+TANK)/TANK EXTERNAL TANK

(EQETO2)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	45.000	.000
□	.900		
○	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	HACH	19.800

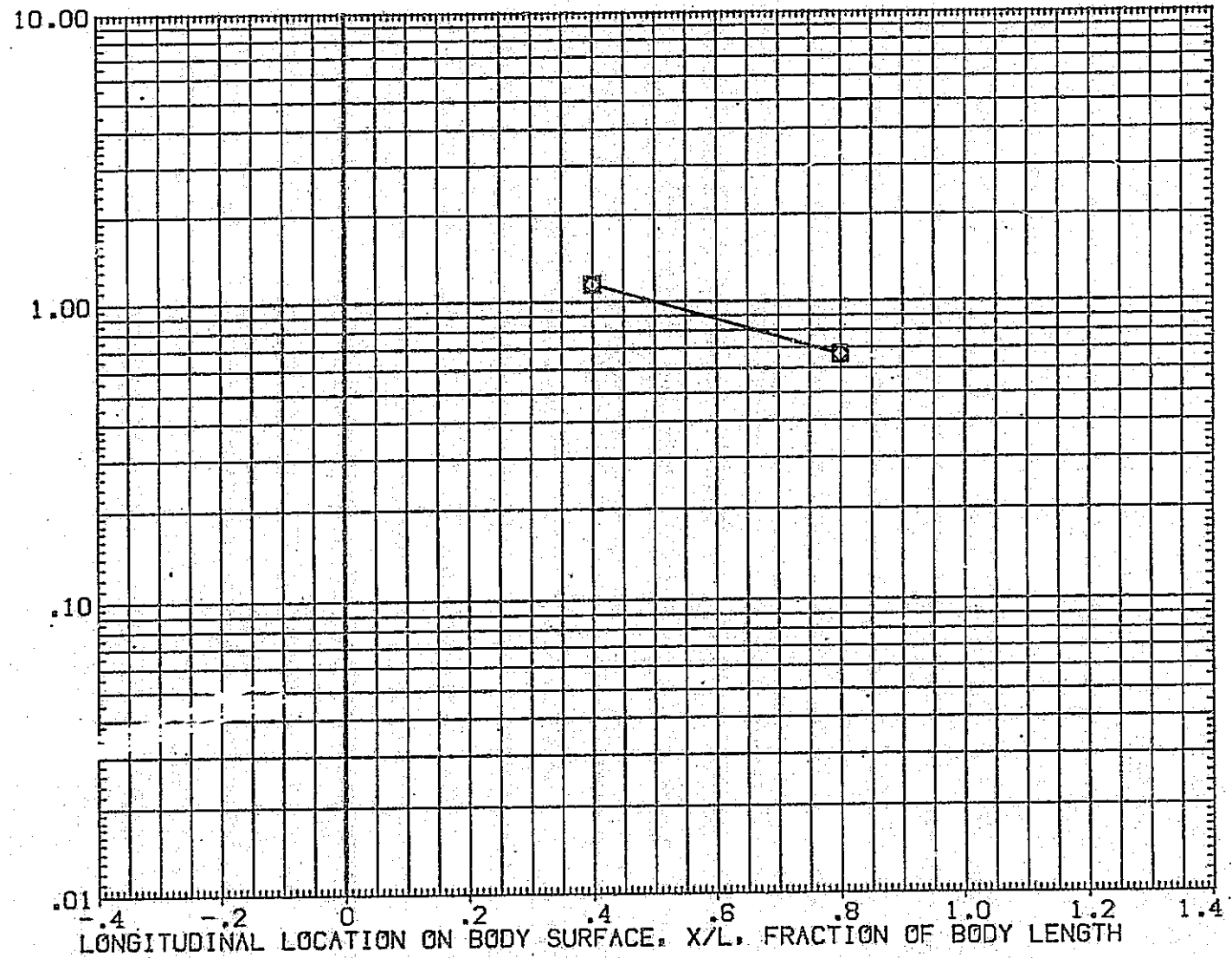
RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $HI/HU$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF



## IH19 RATIO (ORB+TANK)/TANK EXTERNAL TANK

(EQET02)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	67.500	.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L
BLTRIP	.000	MACH
		.500
		19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF., HI/HU

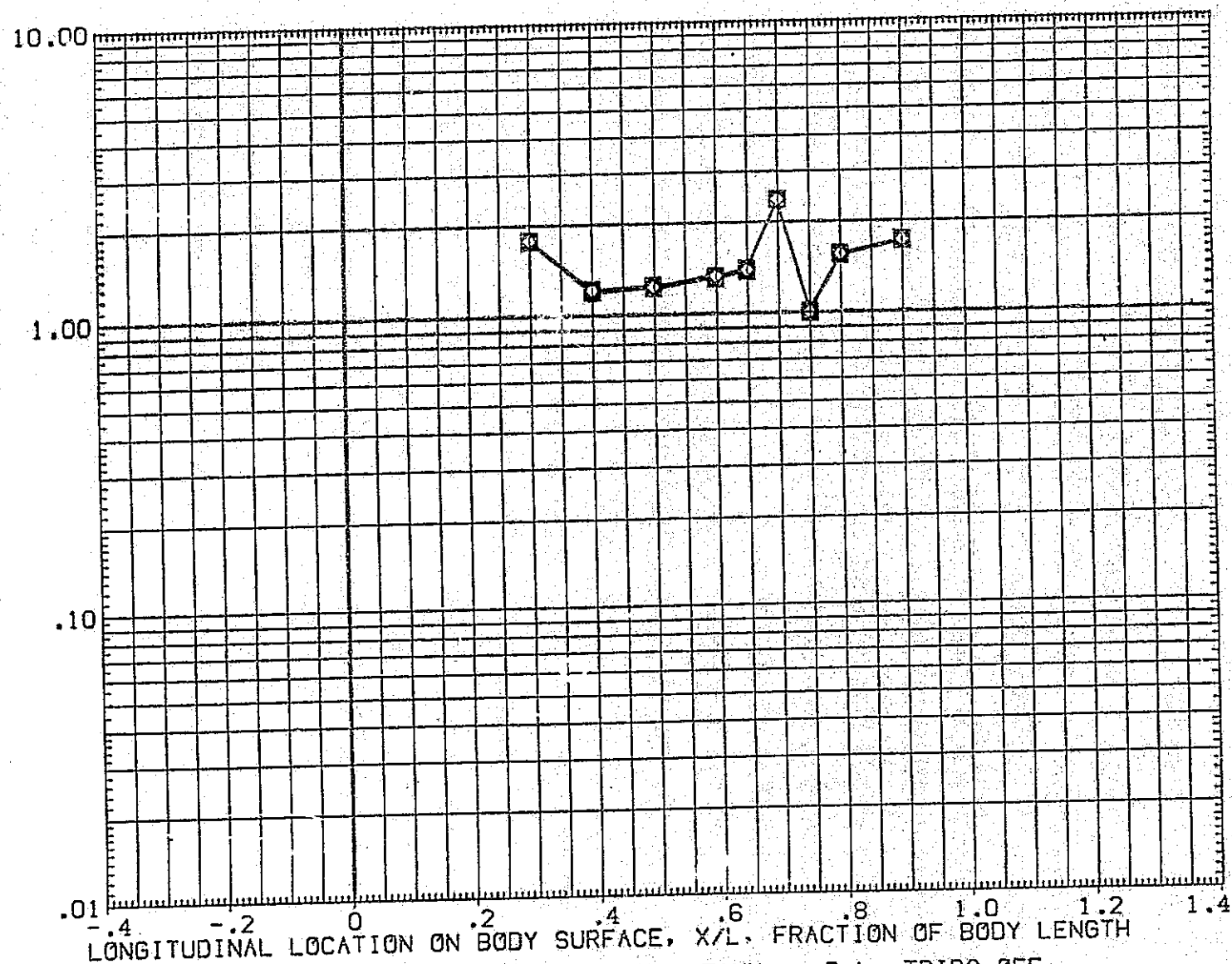


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

SYMBOL	HAW/HT	PHI	ALPHA
○	.950	90.000	.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

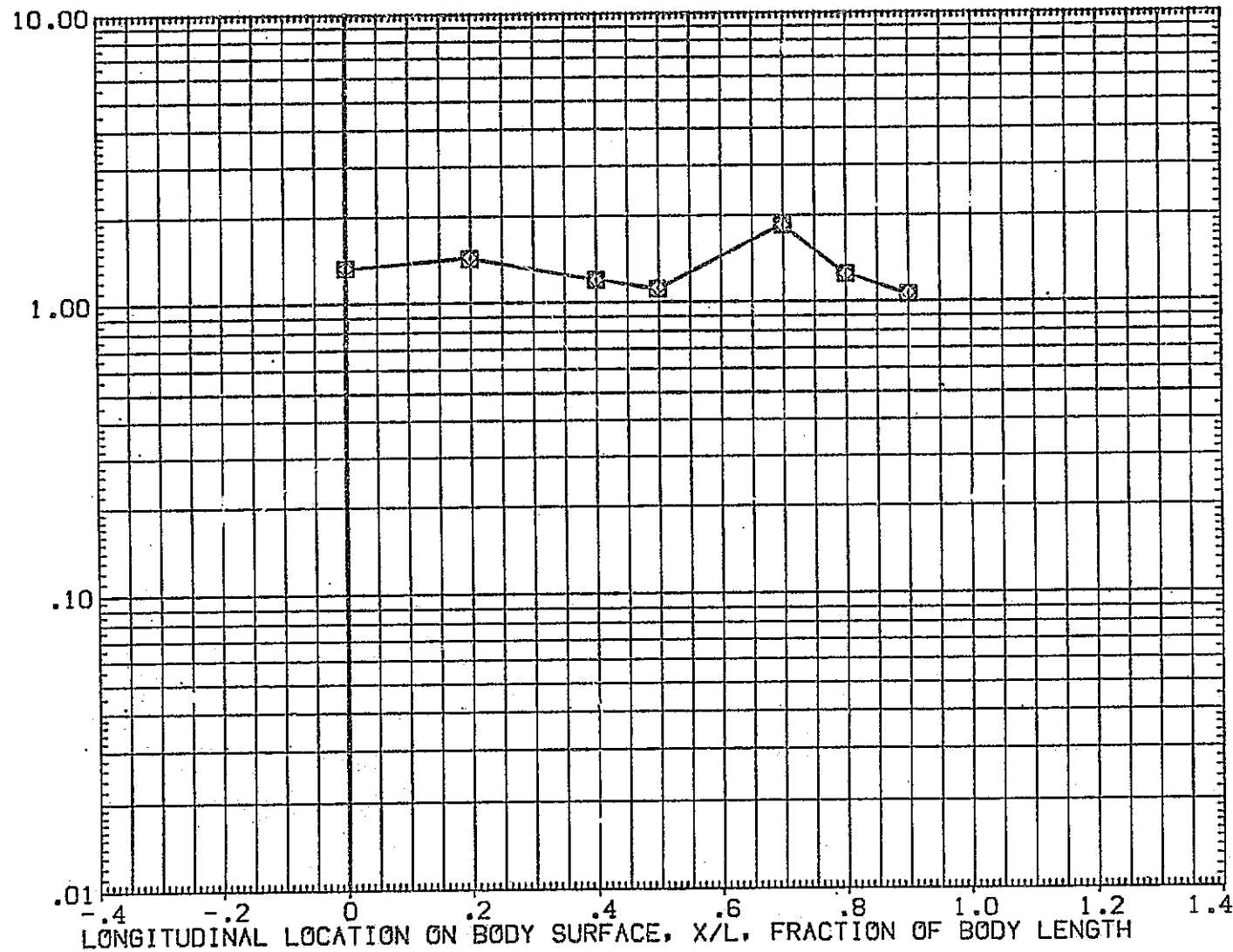
RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $HI/HU$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR



IH19 RATIO (ORB+TANK)/TANK EXTERNAL TANK

(EQETO2)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	112.500	.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	HACH 19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF., HI/HU

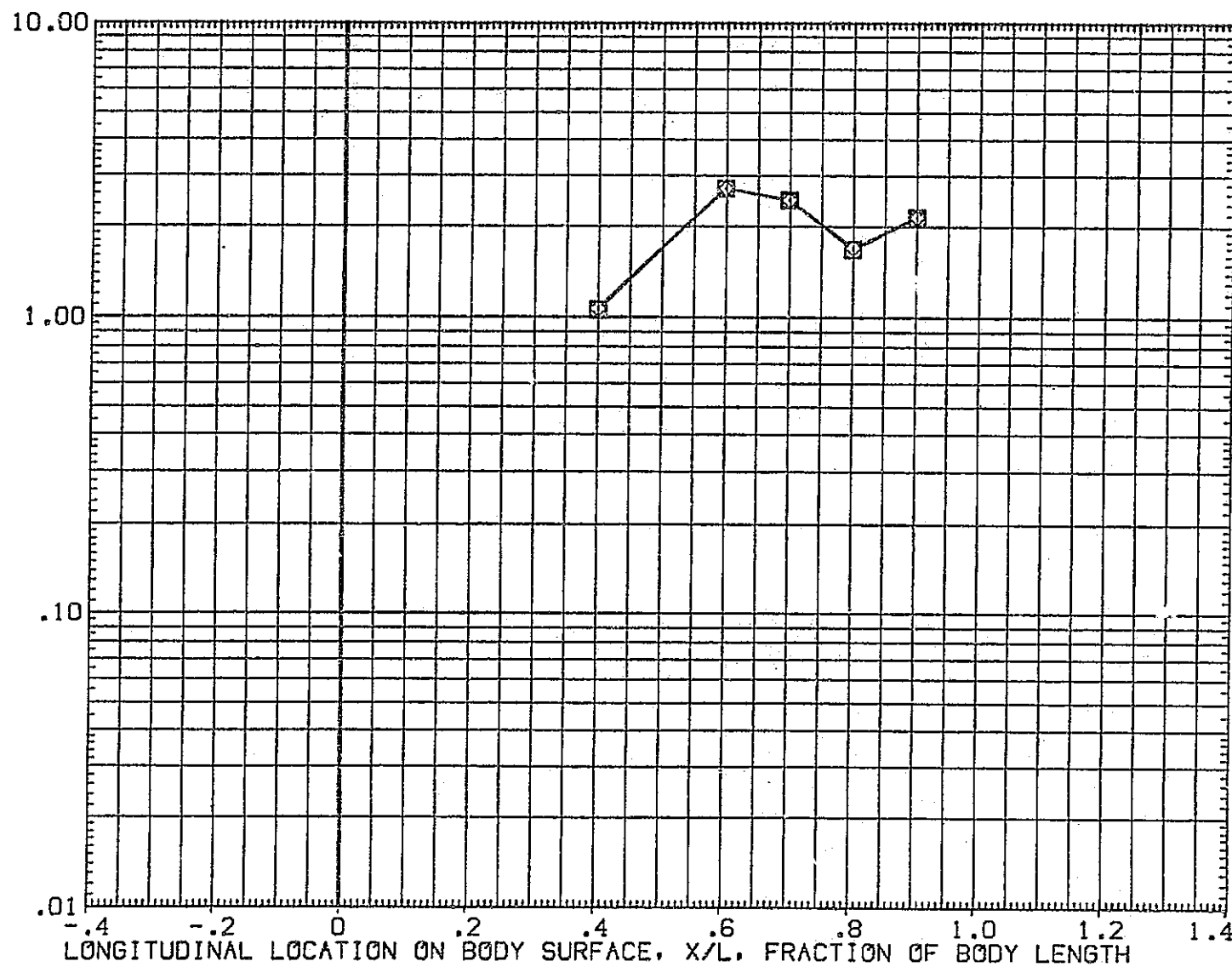


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

## IH19 RATIO (ORB+TANK)/TANK EXTERNAL TANK

(EQETO2)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	135.000	.000
□	.900		
○	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	MACH	19.800

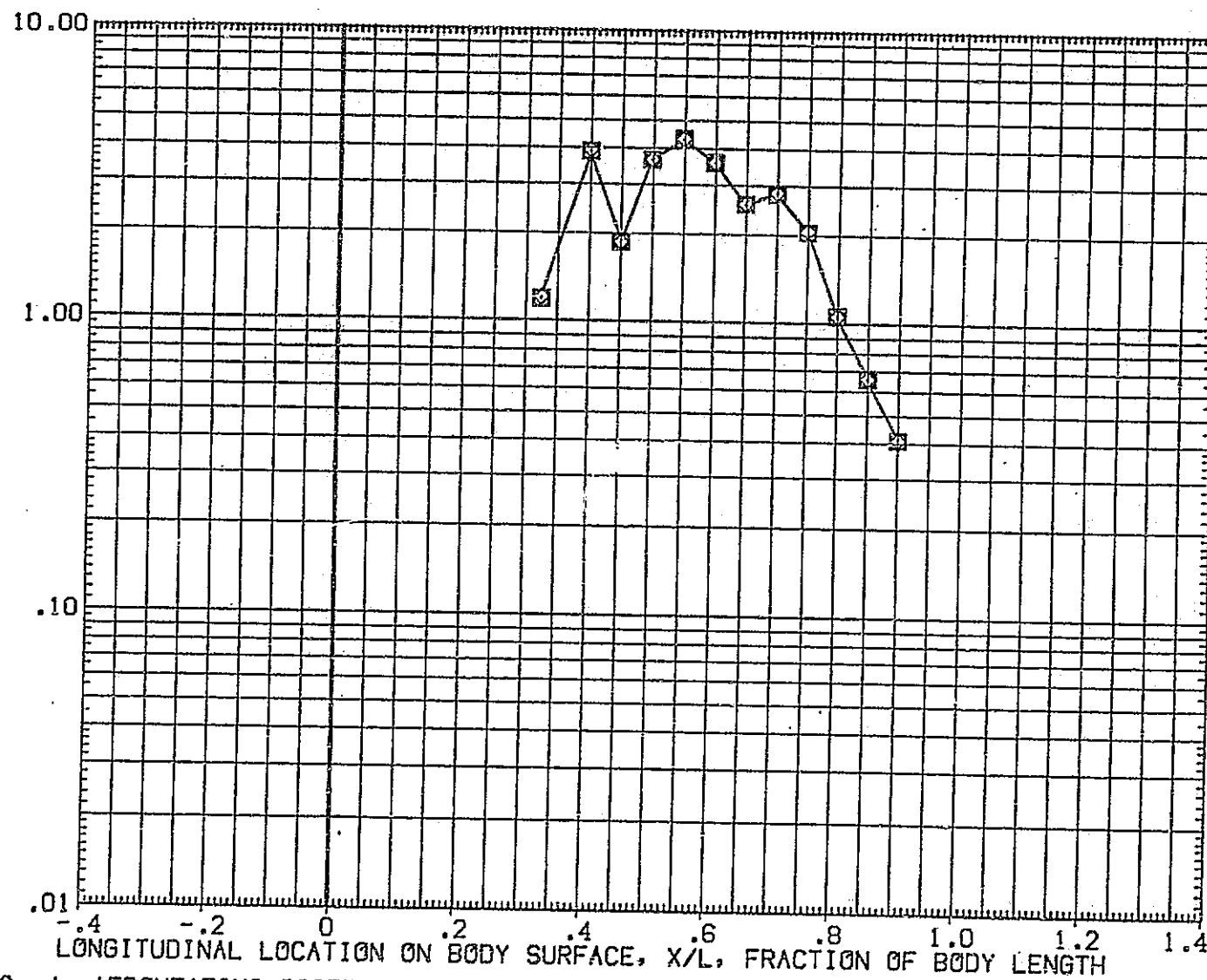
RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $H_i/H_u$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

# IH19 RATIO (ORB+TANK)/TANK EXTERNAL TANK

(EQET02)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	157.500	.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	MACH	19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF., HI/HU

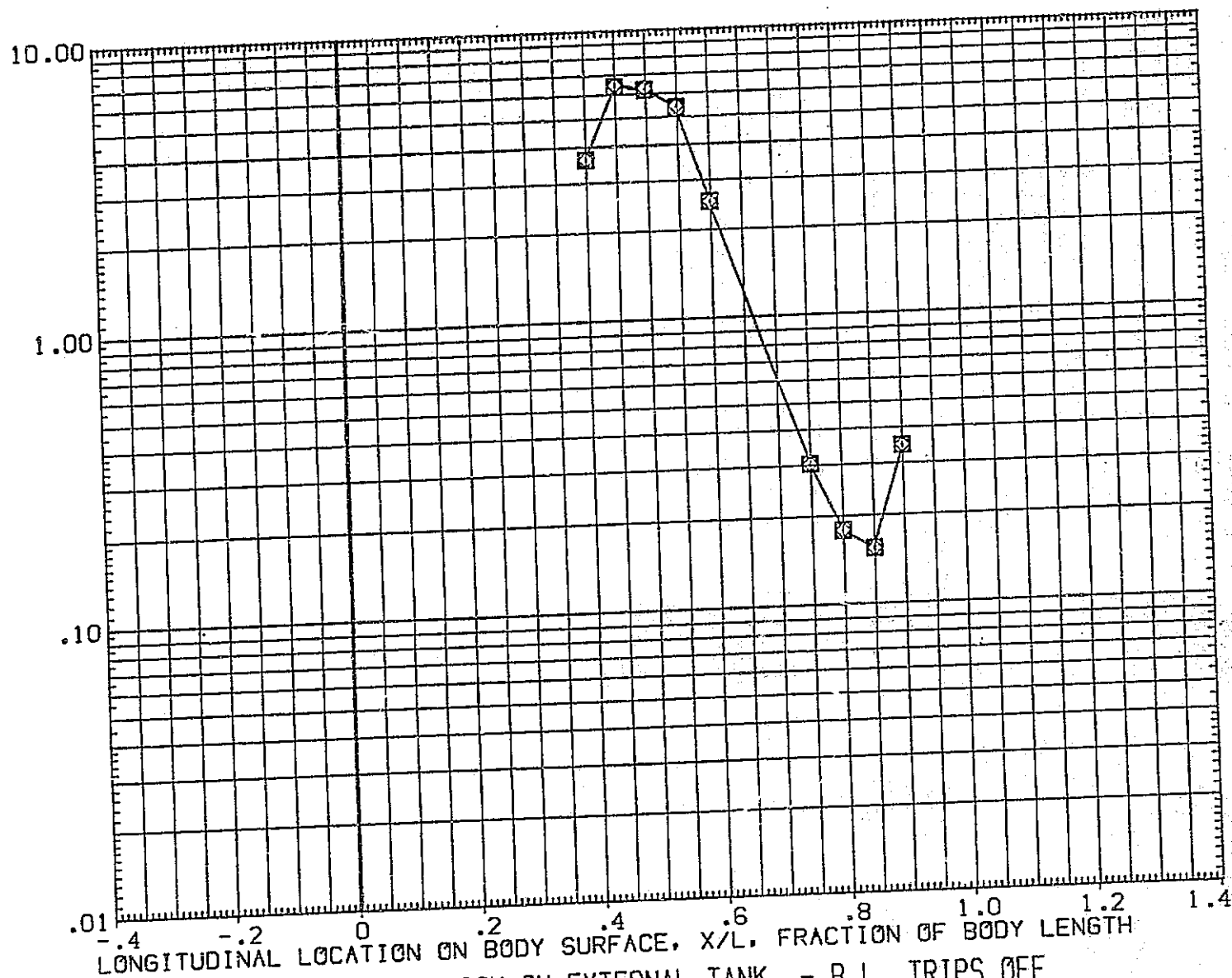


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	180.000	.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	MACH	19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.. HI/HU

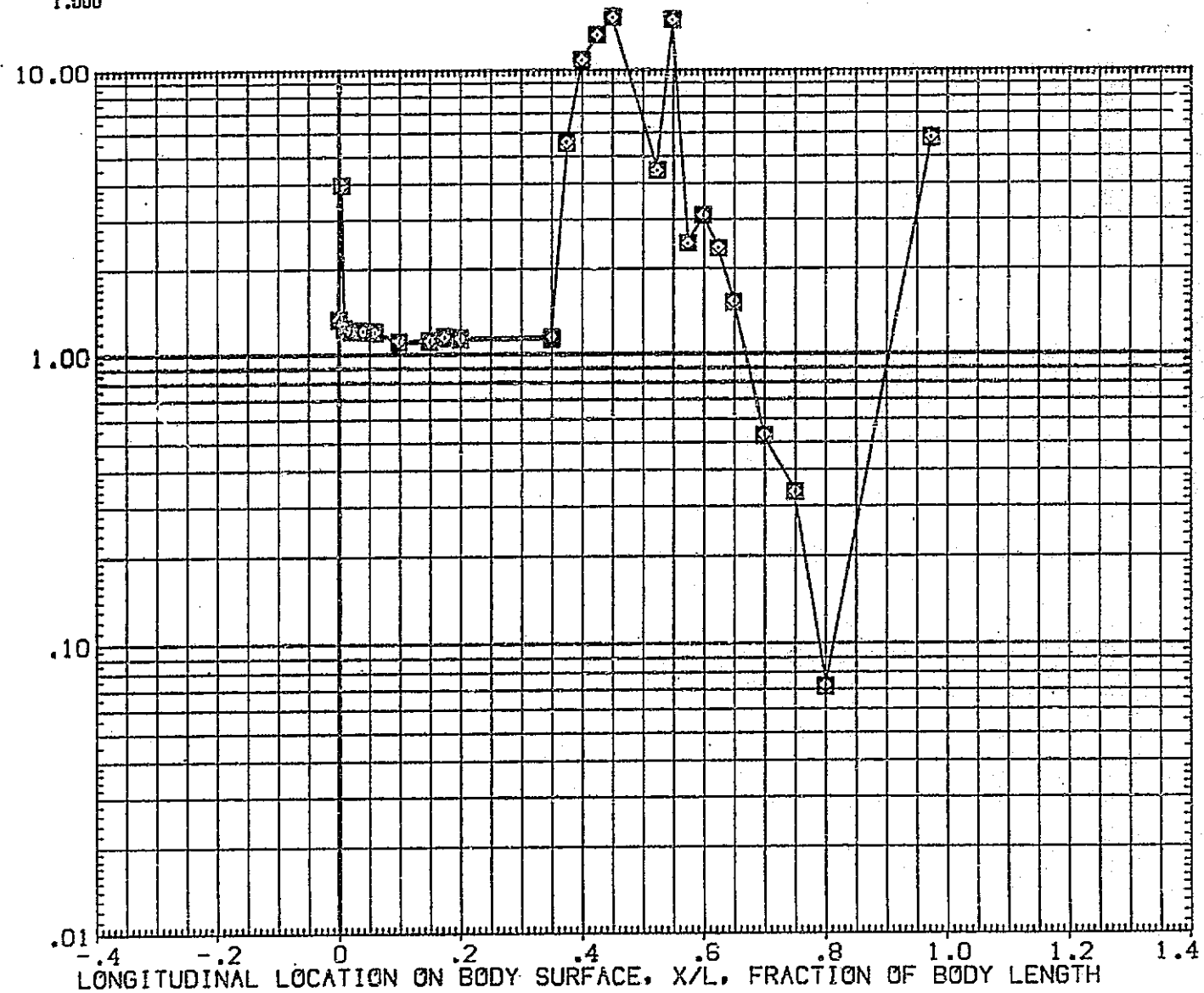


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

IH19 RATIO (ORB+TANK)/TANK EXTERNAL TANK

(EQETO2)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	.000	5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

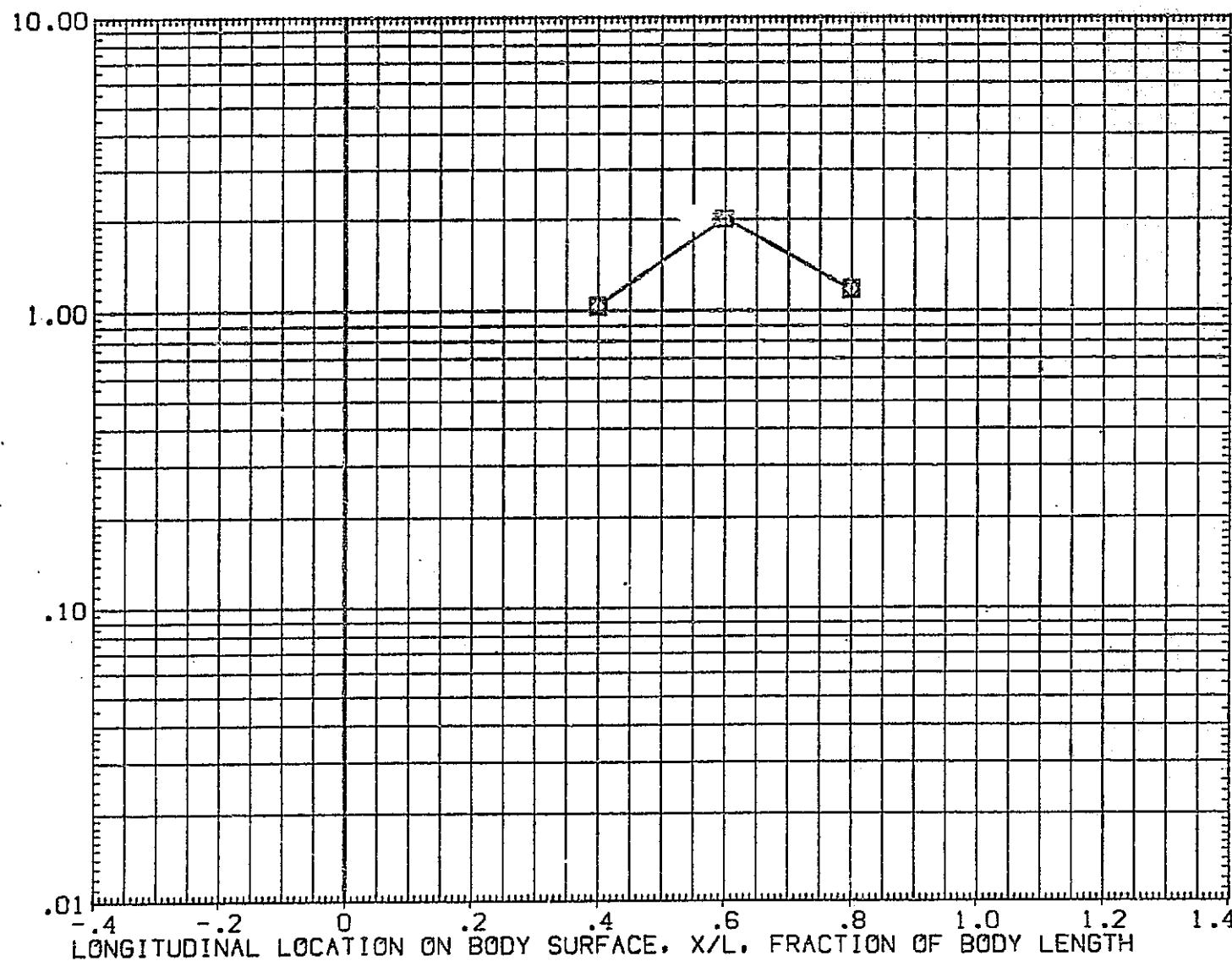
RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $H_i/H_u$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	45.000	5.000
□	.900		
□	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

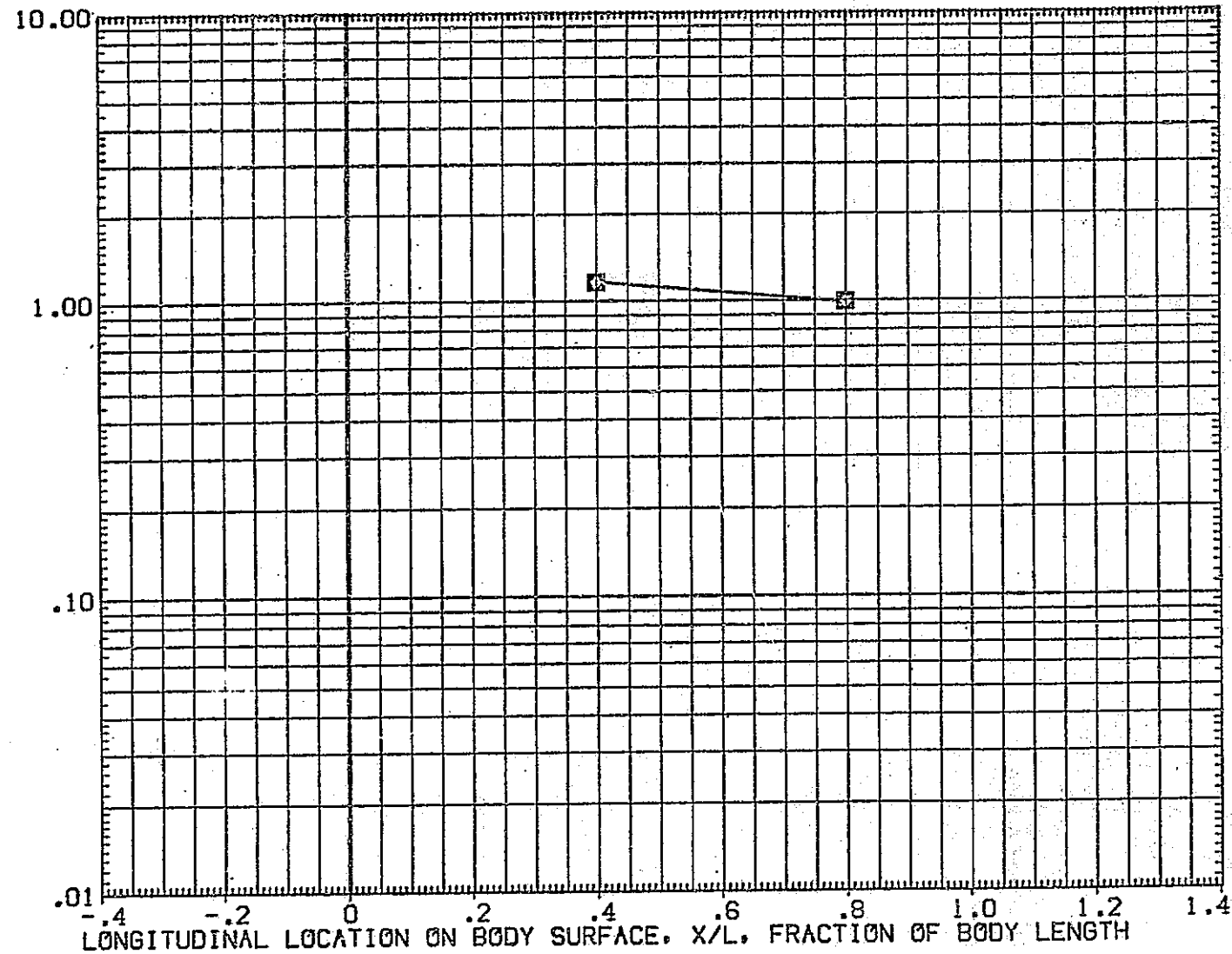
RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $h_i/h_u$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF





IH19 RATIO (ORB+TANK)/TANK EXTERNAL TANK

(EQETO2)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	67.500	5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	MACH	19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF., HI/HU

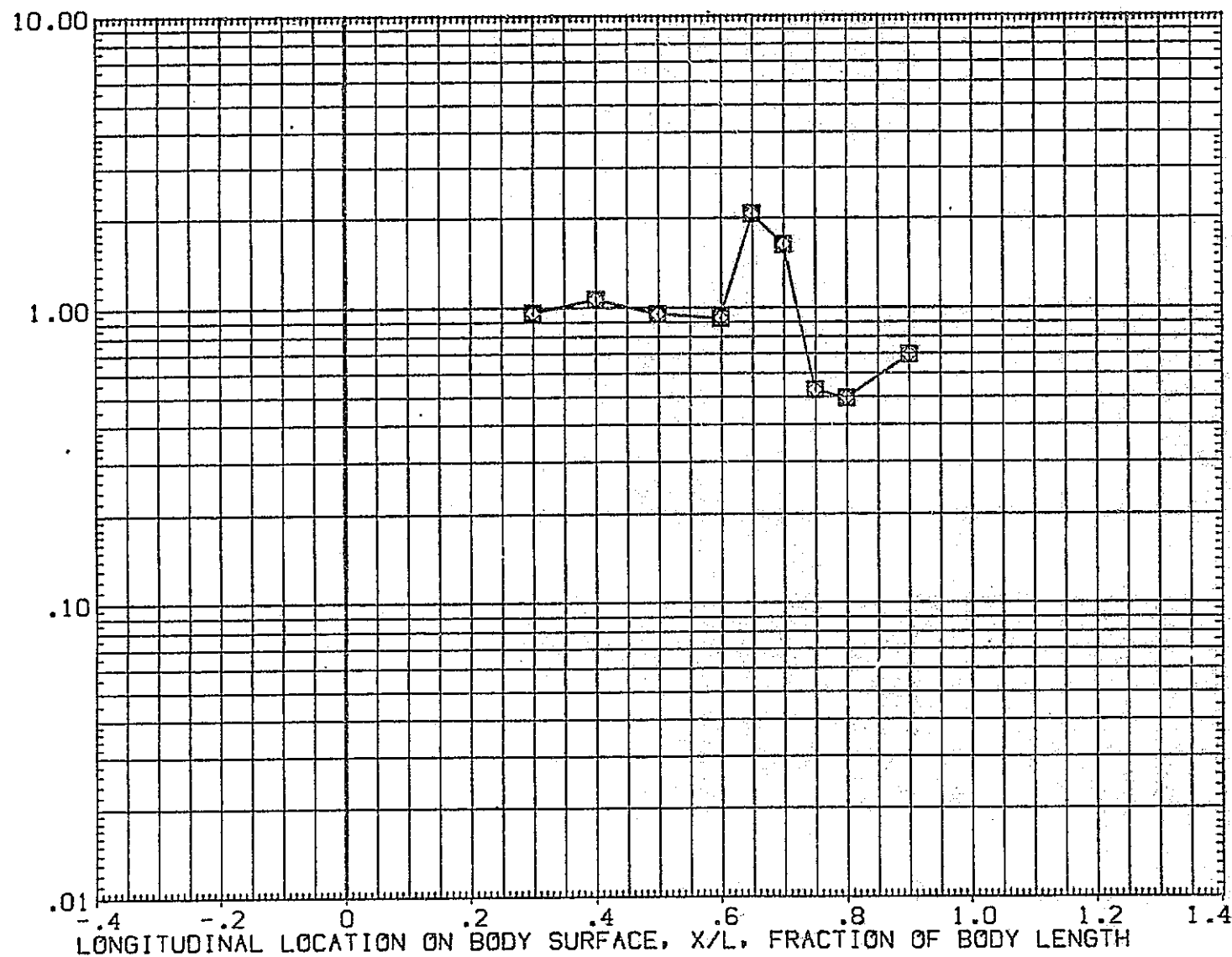


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	90.000	5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L
BLTRIP	.000	MACH
		19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.. HI/HU

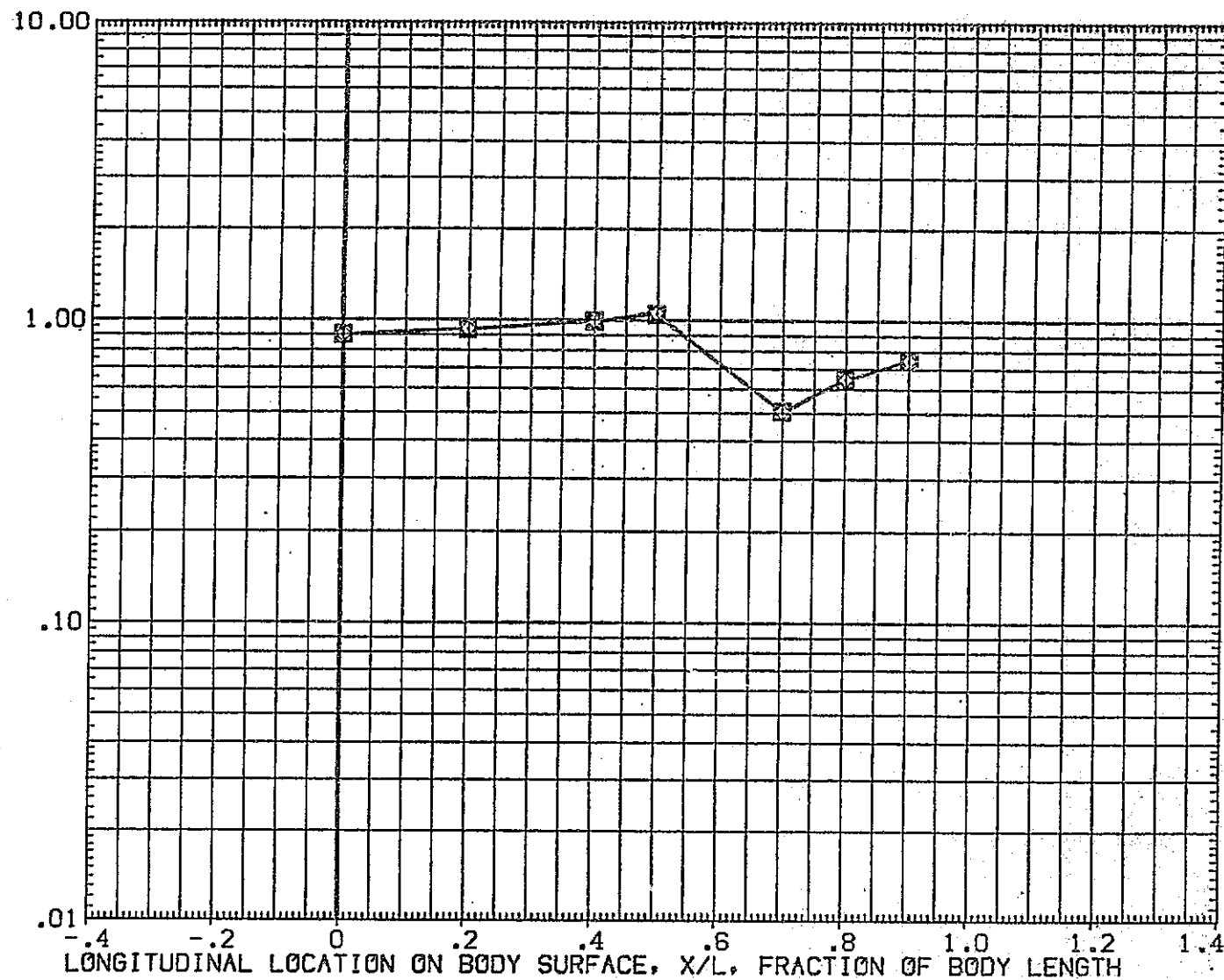


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

IH19 RATIO (ORB+TANK)/TANK EXTERNAL TANK

(EQETO2)

SYMBOL

HAW/HT

PHI

ALPHA

PARAMETRIC VALUES

BETA

.000

RN/L

.500

BLTRIP

.000

MACH

19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.. HI/HU

○  
 □  
 ◇

.850  
 .900  
 1.000

112.500

5.000

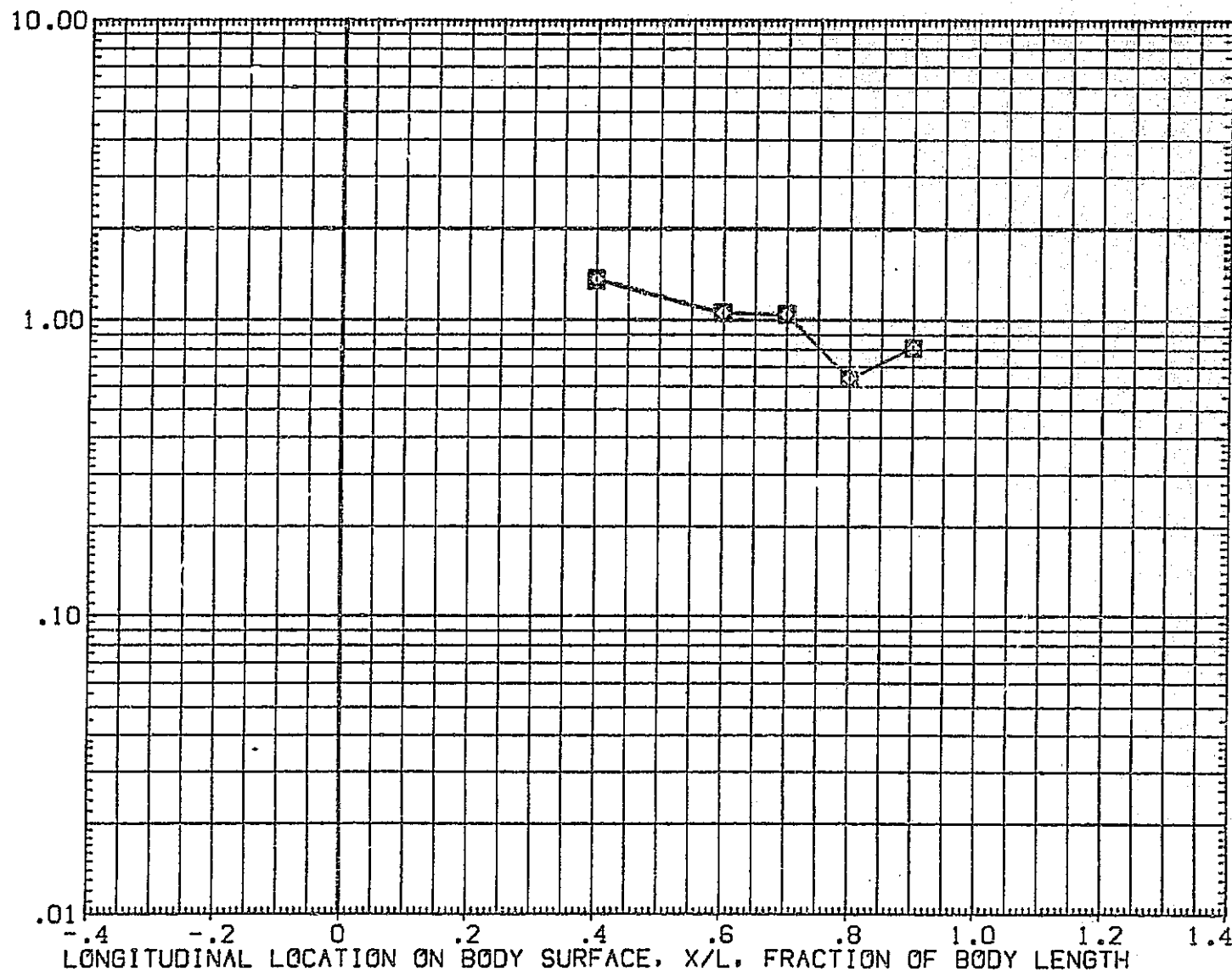


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

IH19 RATIO (ORB+TANK)/TANK EXTERNAL TANK

(EGET02)

SYMBOL

HAW/HT

PHI

ALPHA

PARAMETRIC VALUES

BETA  
BLTRIPRN/L  
MACH.500  
19.800

O  
 □  
 ◇

.850  
 .900  
 1.000

135.000

5.000

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.. HI/HU

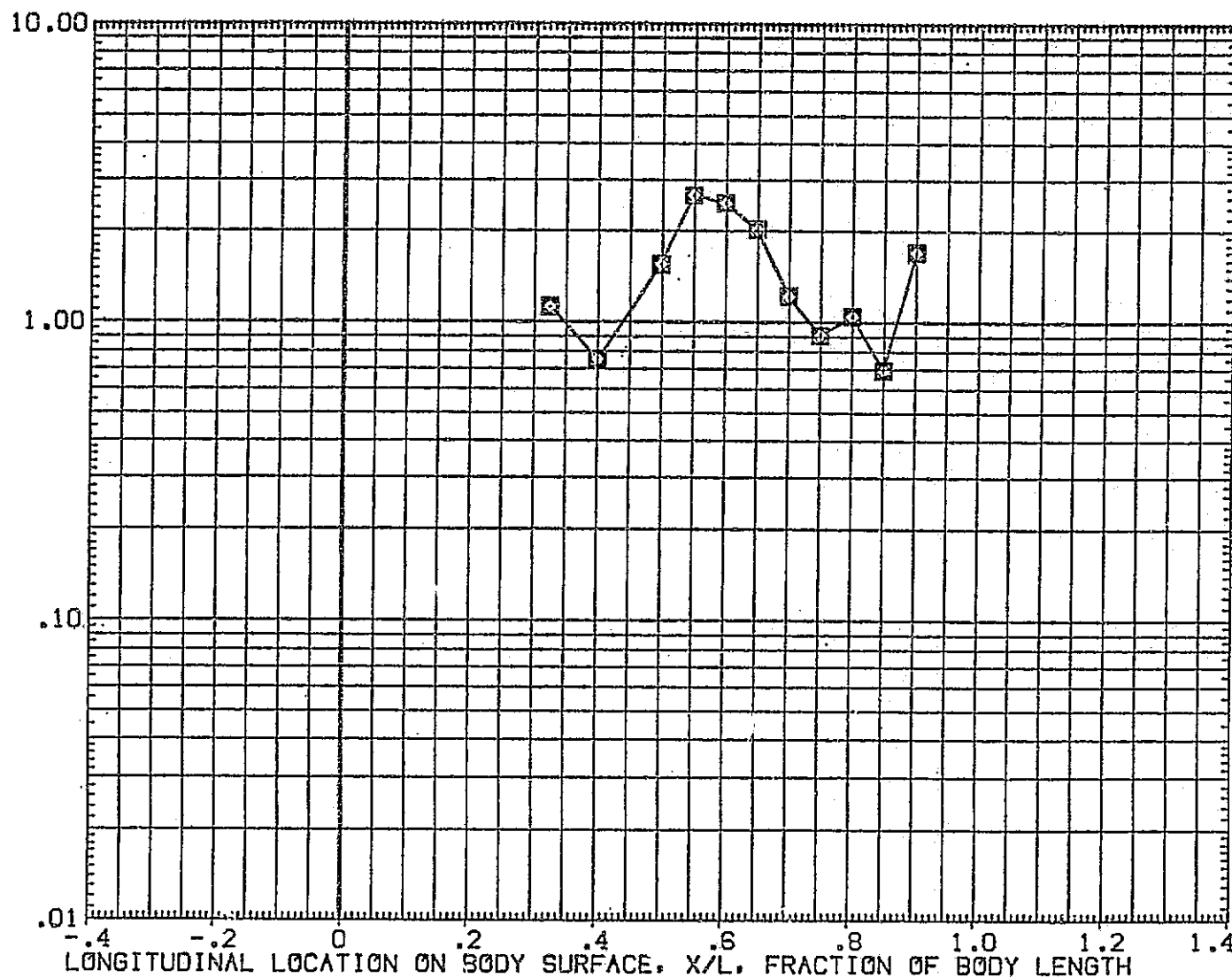


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

1H19 RATIO (ORB+TANK)/TANK EXTERNAL TANK

(EQETO2)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	157.500	5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF., HI/HU

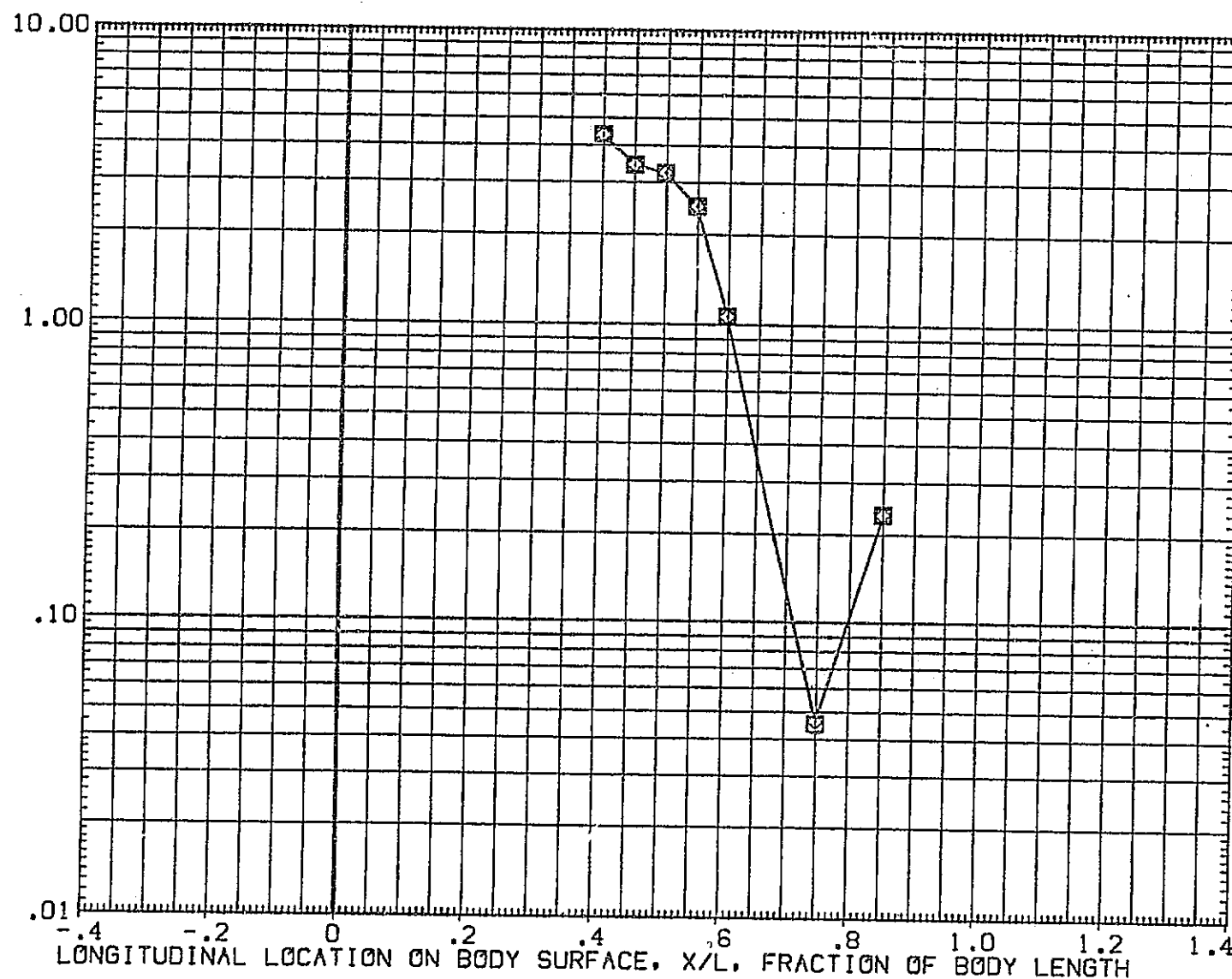


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

SYMBOL	HAW/HT	PHI	ALPHA
○	.650	180.000	5.000
□	.800		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.. HI/HU

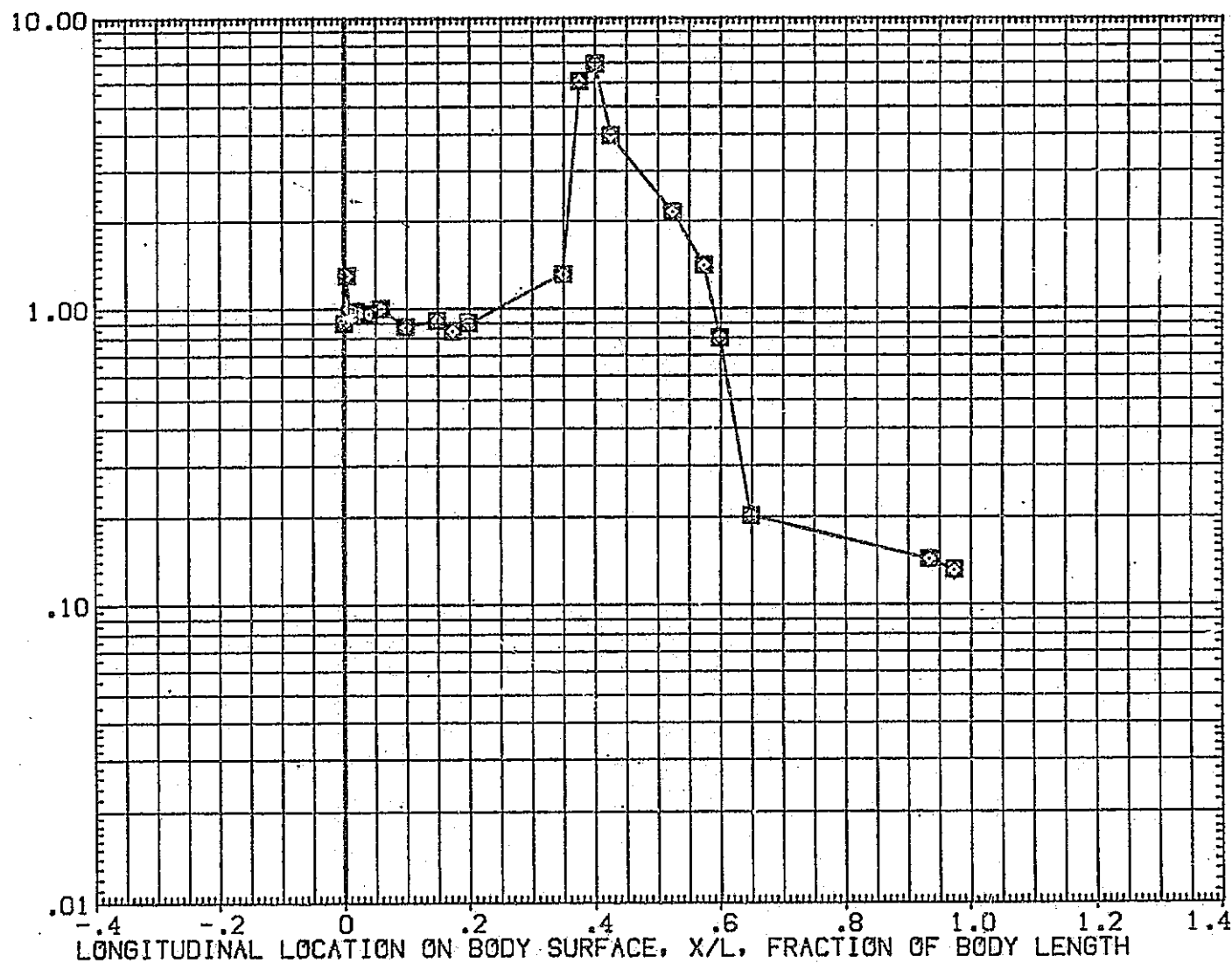


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF



IH19 RATIO (ORB+TANK)/TANK EXTERNAL TANK

(EQET02)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	.000	10.000
□	.900		
○	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	MACH	19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.. HI/HU

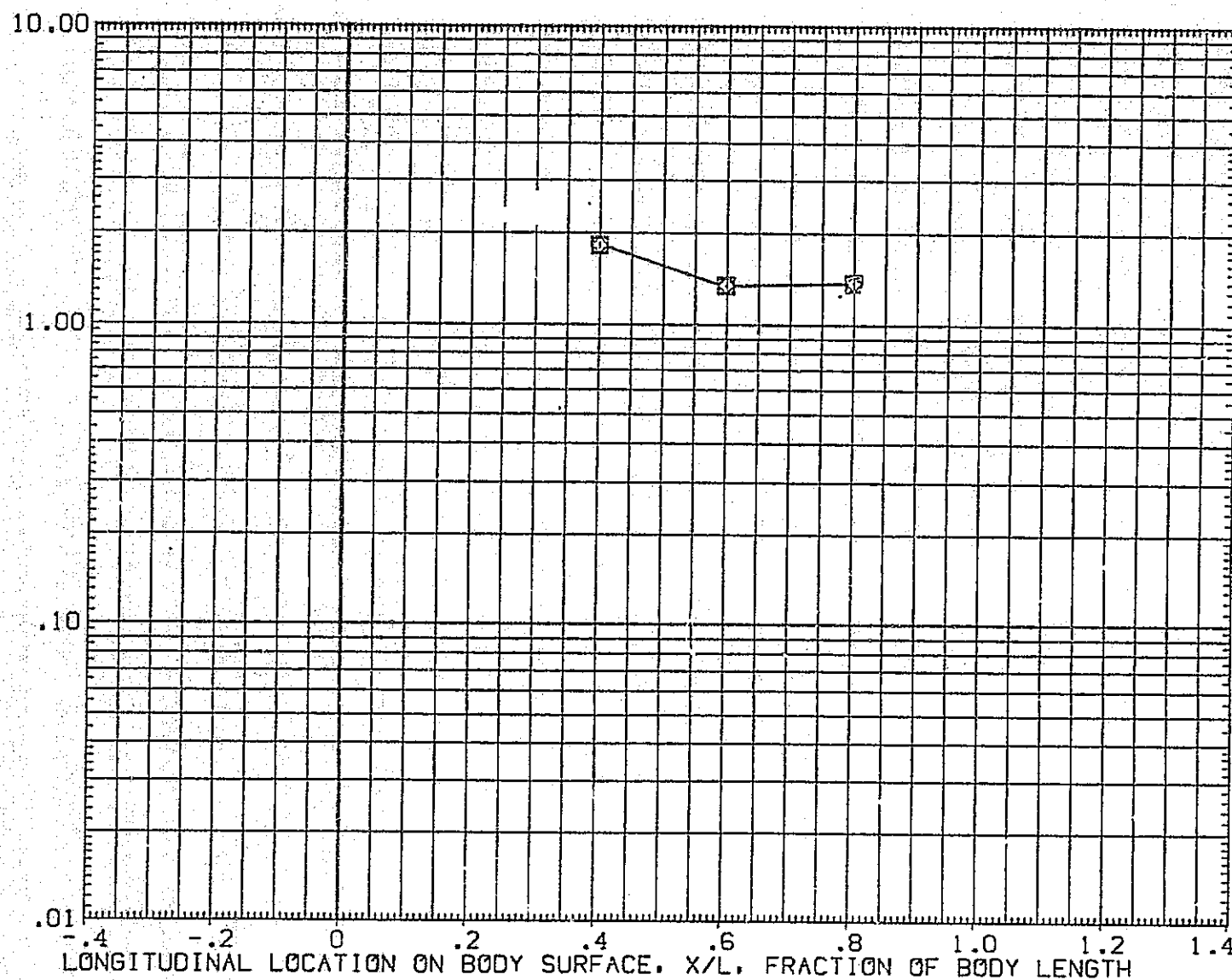


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

## IH19 RATIO (ORB+TANK)/TANK EXTERNAL TANK

(EQETO2)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	45.000	10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	MACH	19.900

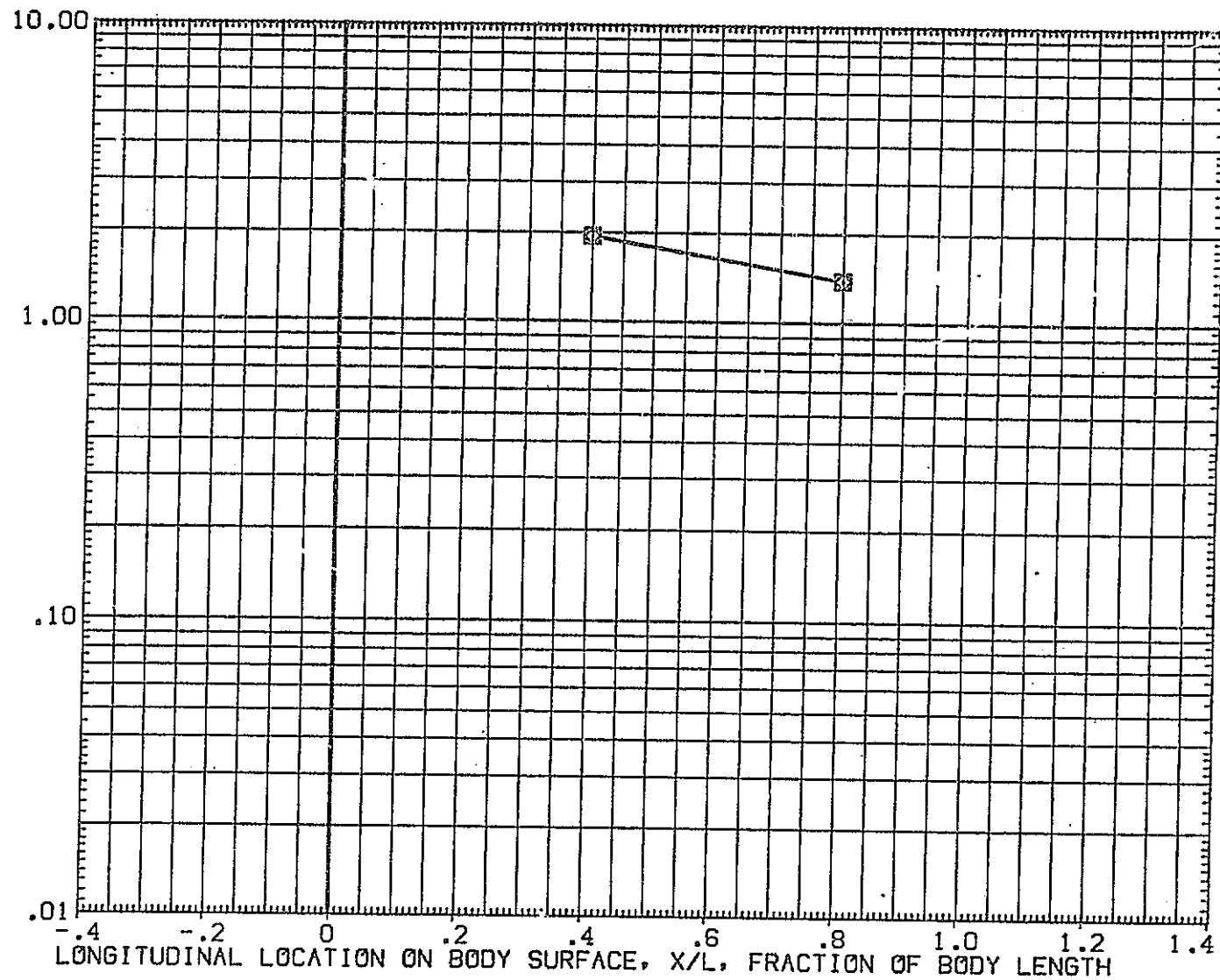
RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $HI/HU$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF



IH19 RATIO (ORB+TANK)/TANK EXTERNAL TANK

(EQETO2)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	67.500	10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	HACH 19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF., HI/HU

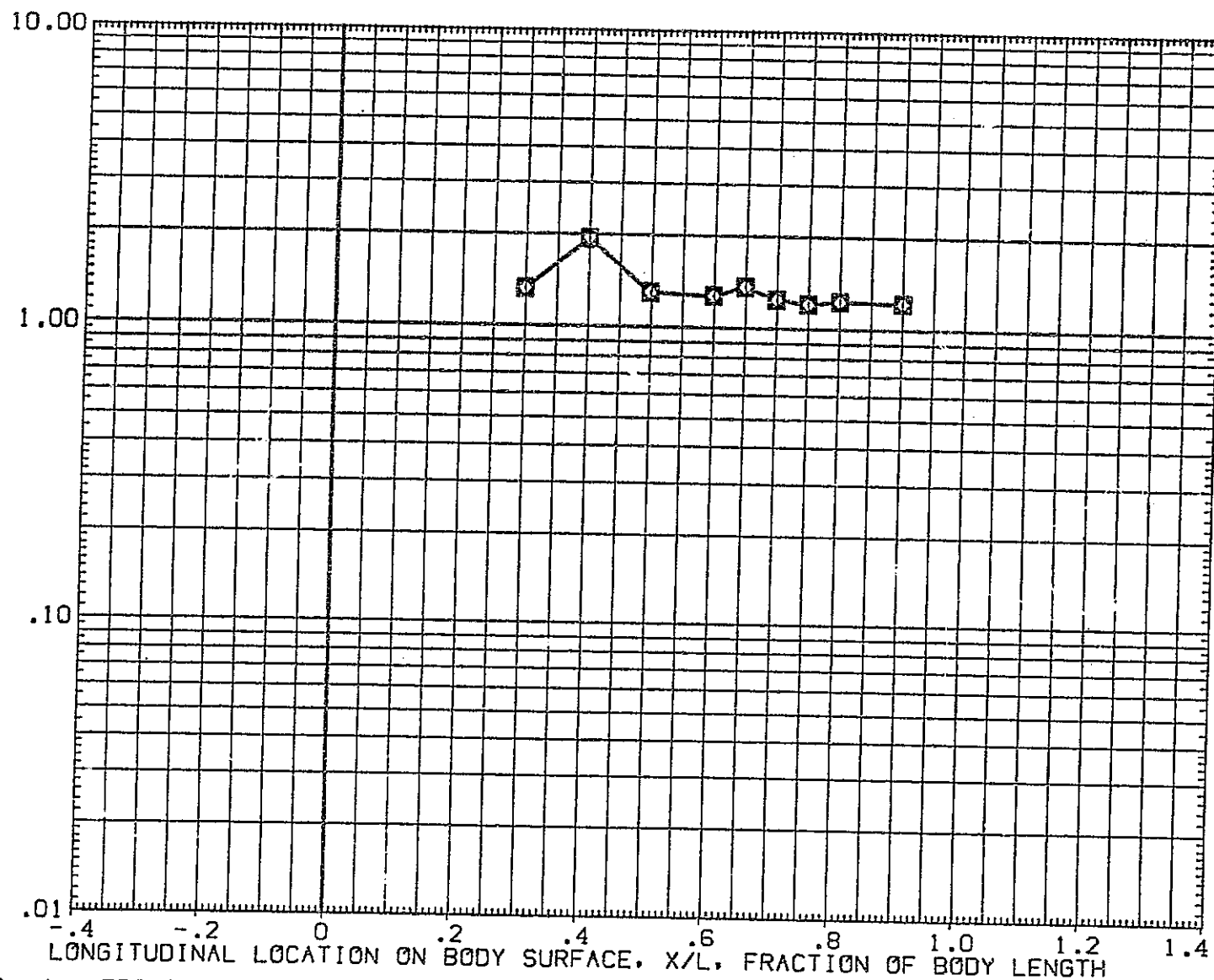


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	90.000	10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	HACH	19.000

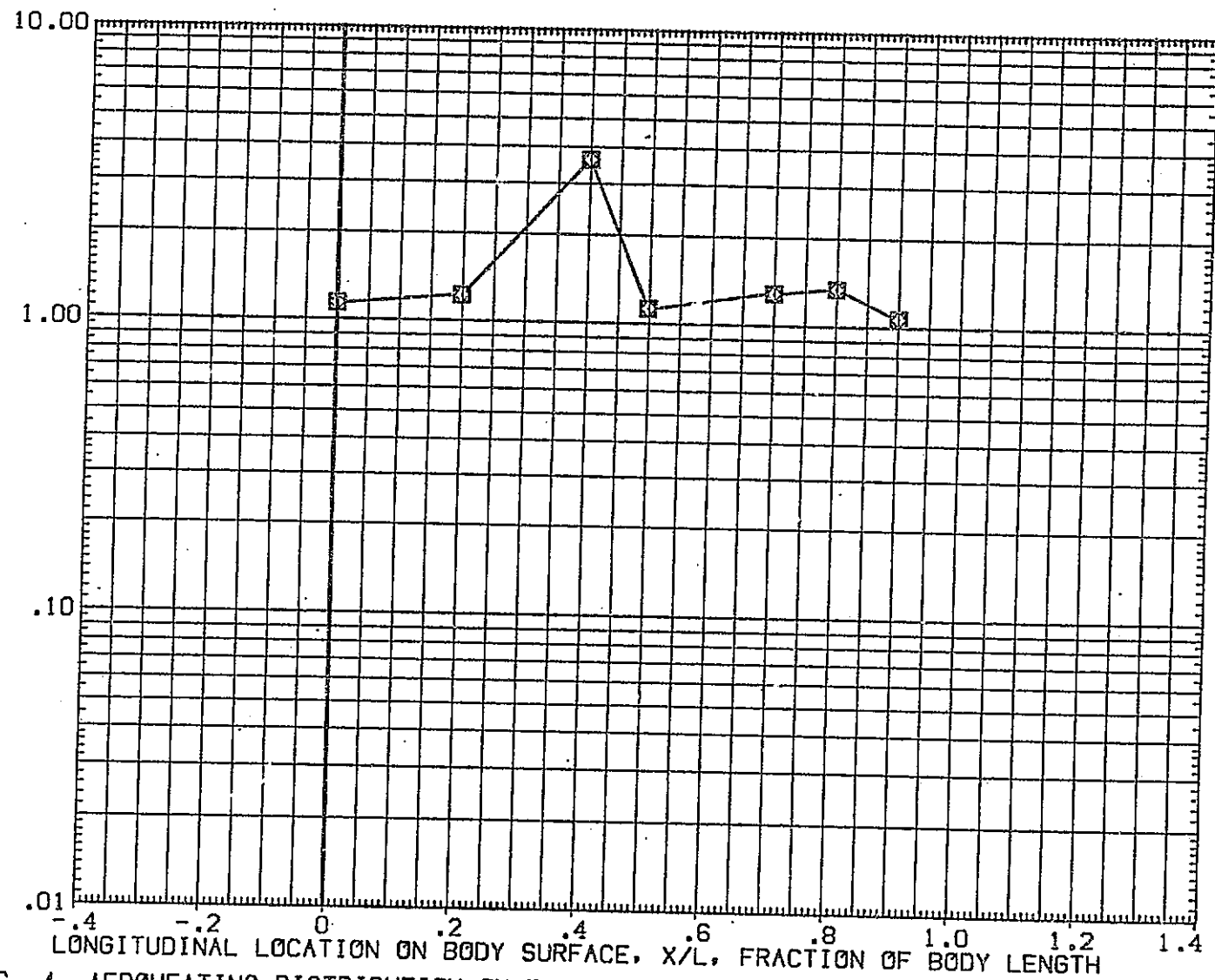
RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $HI/HU$ 

FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

1H19 RATIO (ORB+TANK)/TANK EXTERNAL TANK

(EQETO2)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	112.500	10.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.. HI/HU

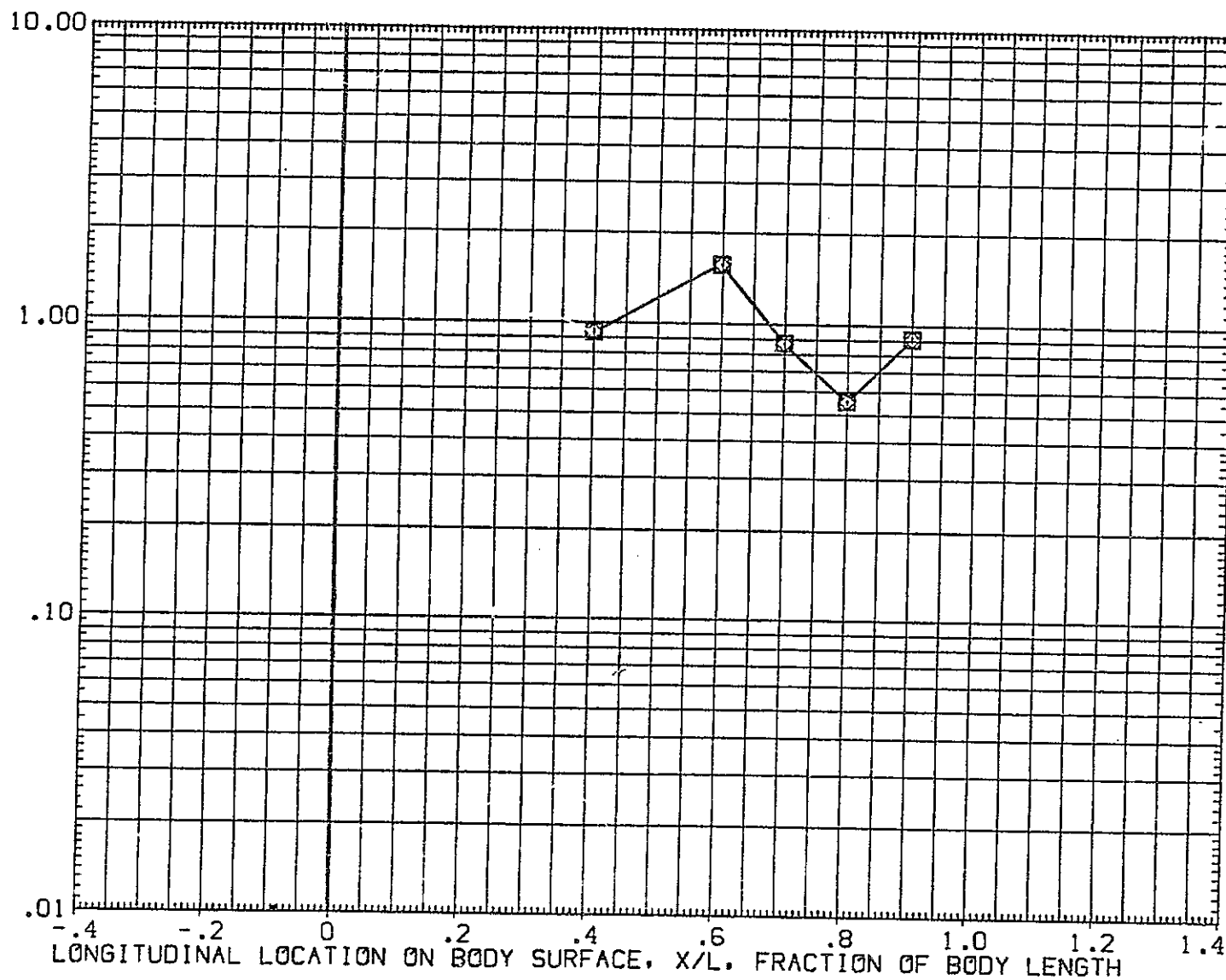


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	135.000	10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	HACH 19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.. HI/HU

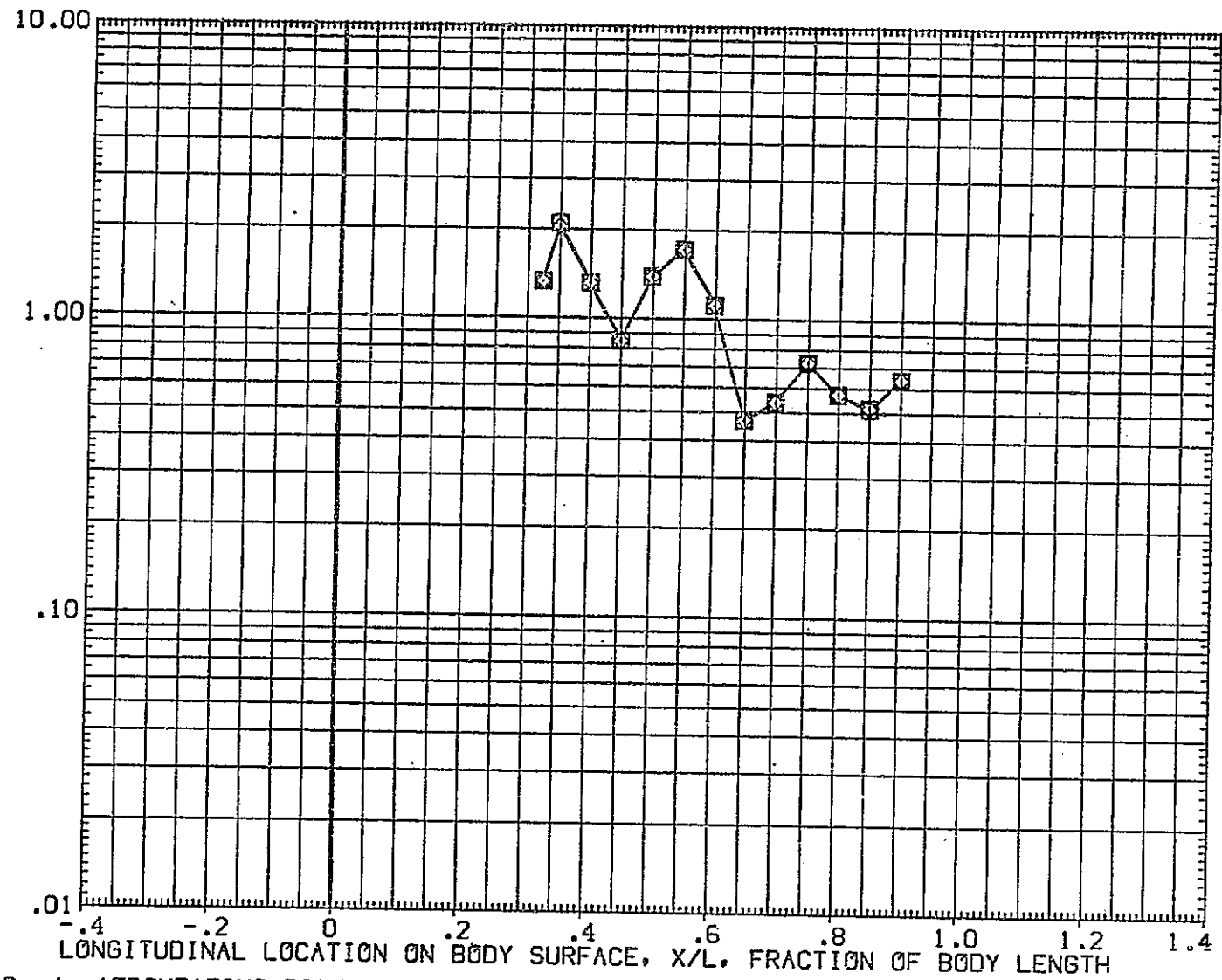


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

IH19 RATIO (ORB+TANK)/TANK EXTERNAL TANK

(EQETO2)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	157.500	10.000
□	.900		
○	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	MACH	19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $H/H_U$

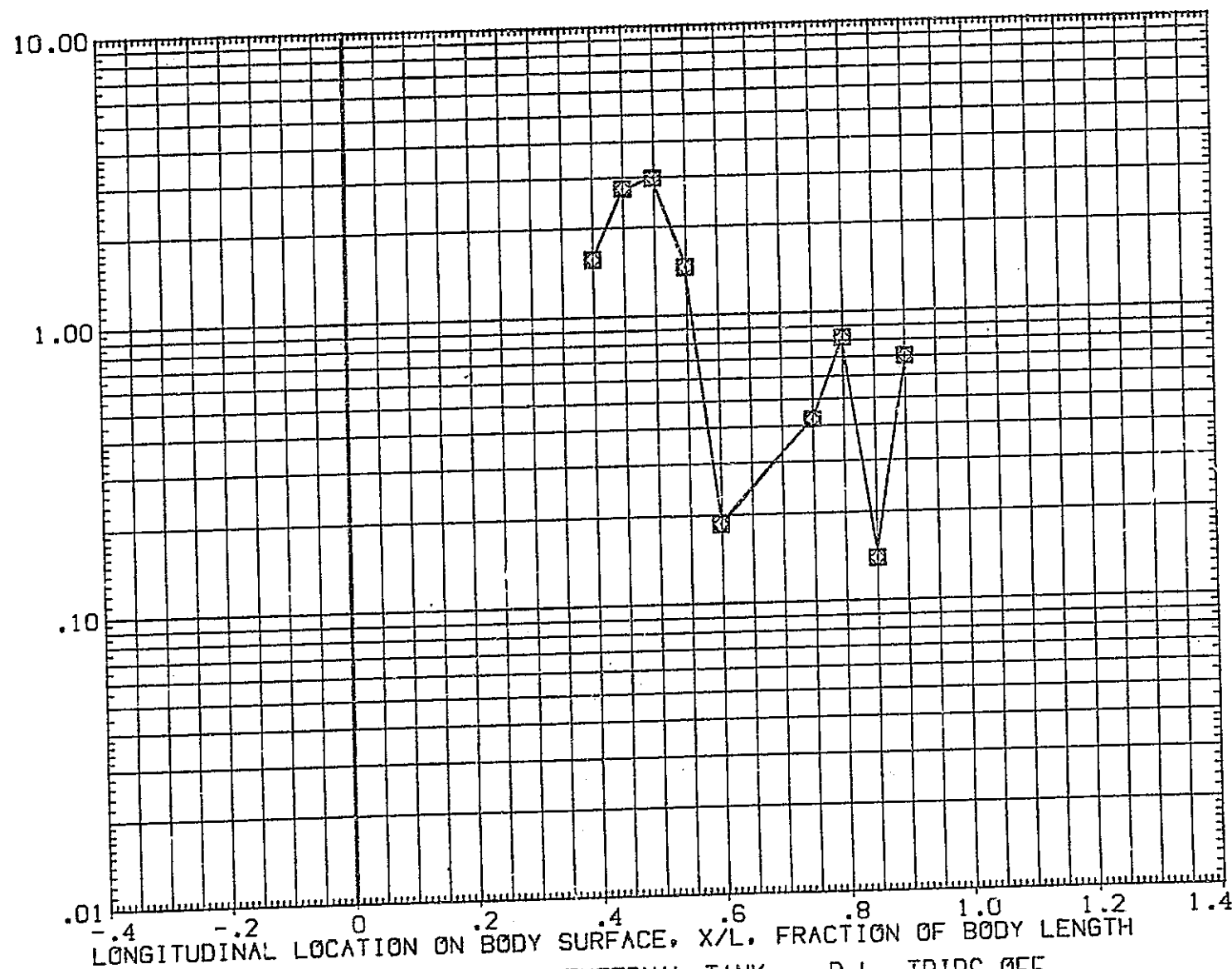


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	180.000	10.000
□	.900		
	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF., HI/HU

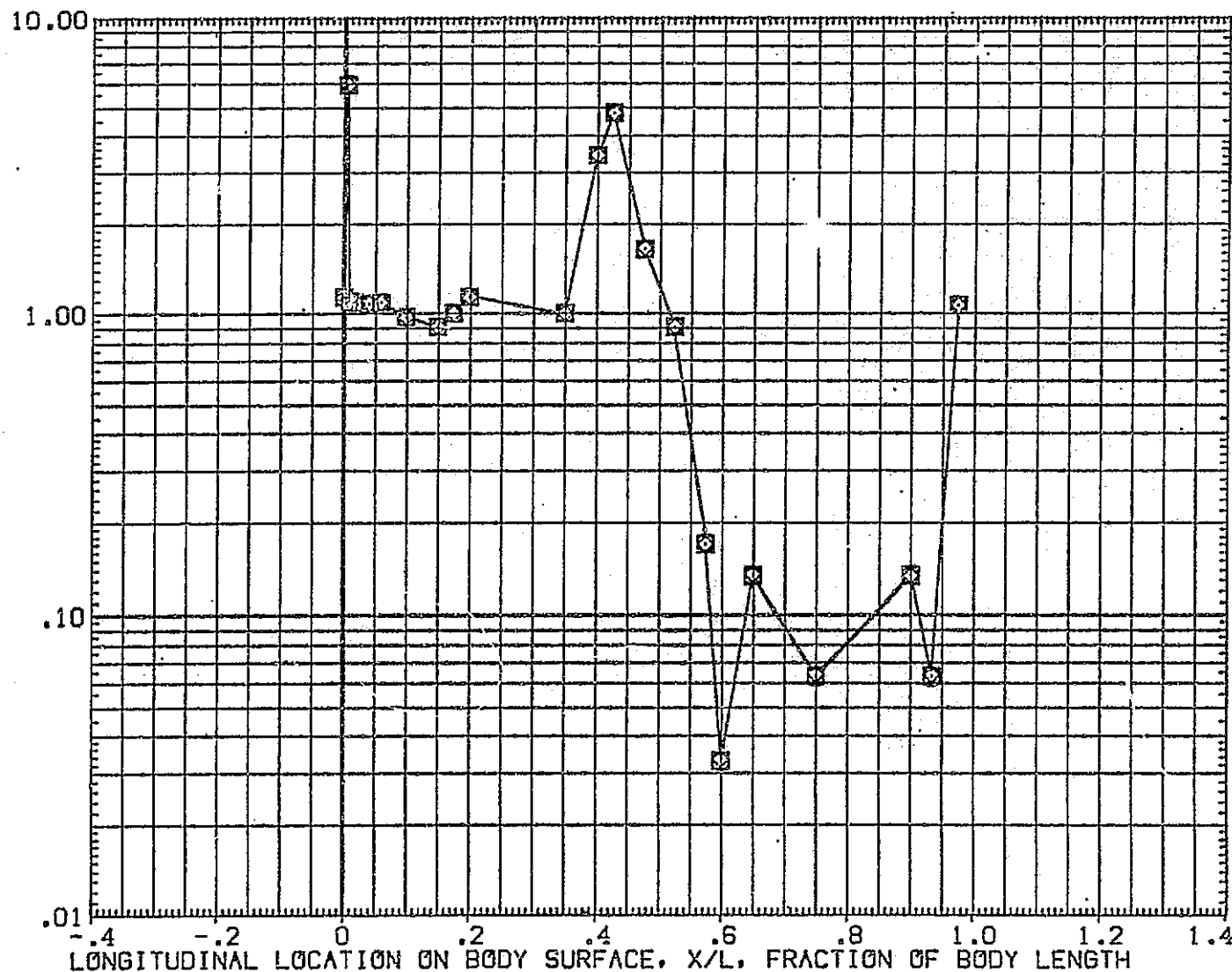


FIG 4 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS OFF

IH19 T8

EXTERNAL TANK

(SQET08)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	.000	-10.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	MACH 19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

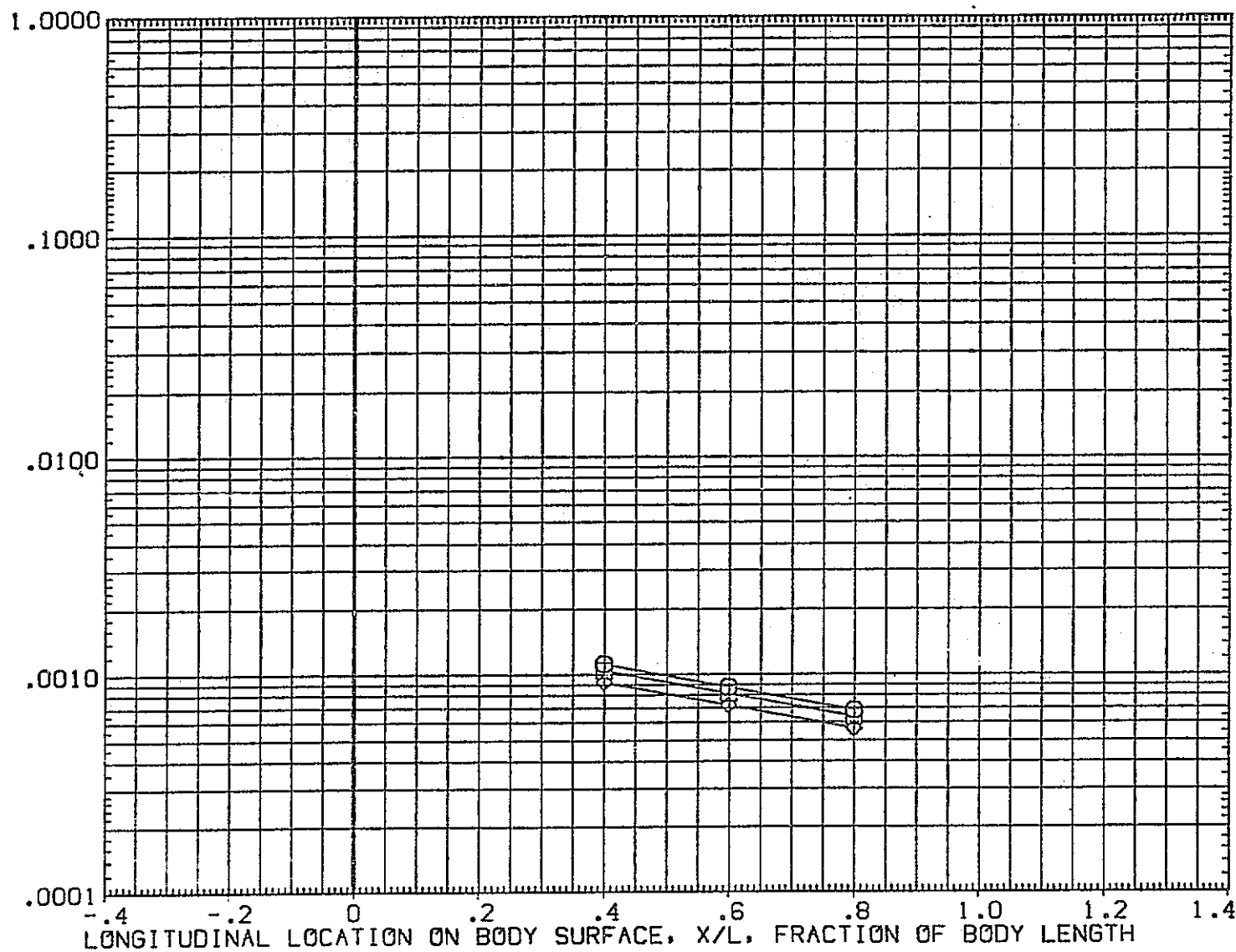


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	45.000	-10.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	FRACH 19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

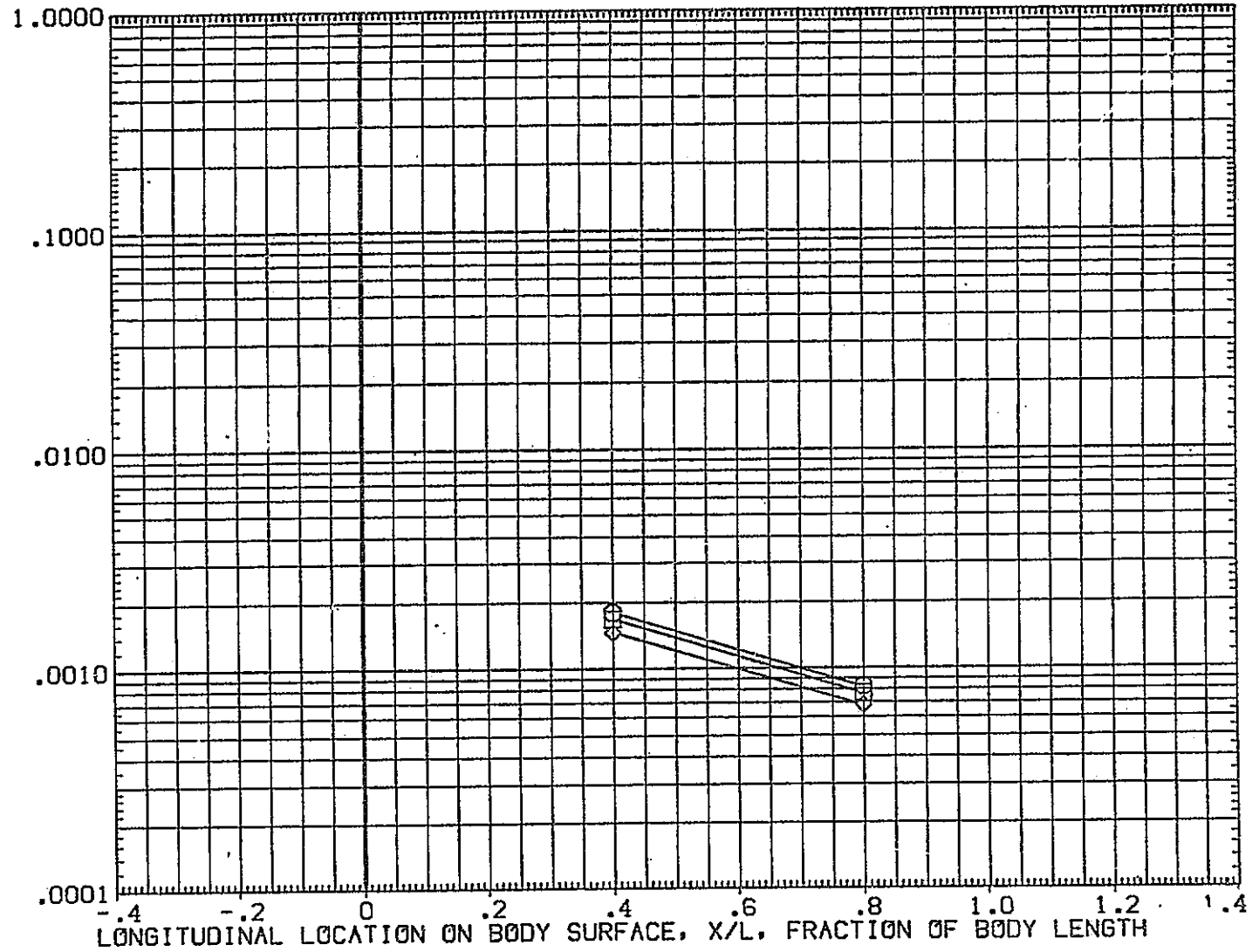


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON



IH19 T8

EXTERNAL TANK

(SQET08)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	67.500	-10.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	MACH 19.800

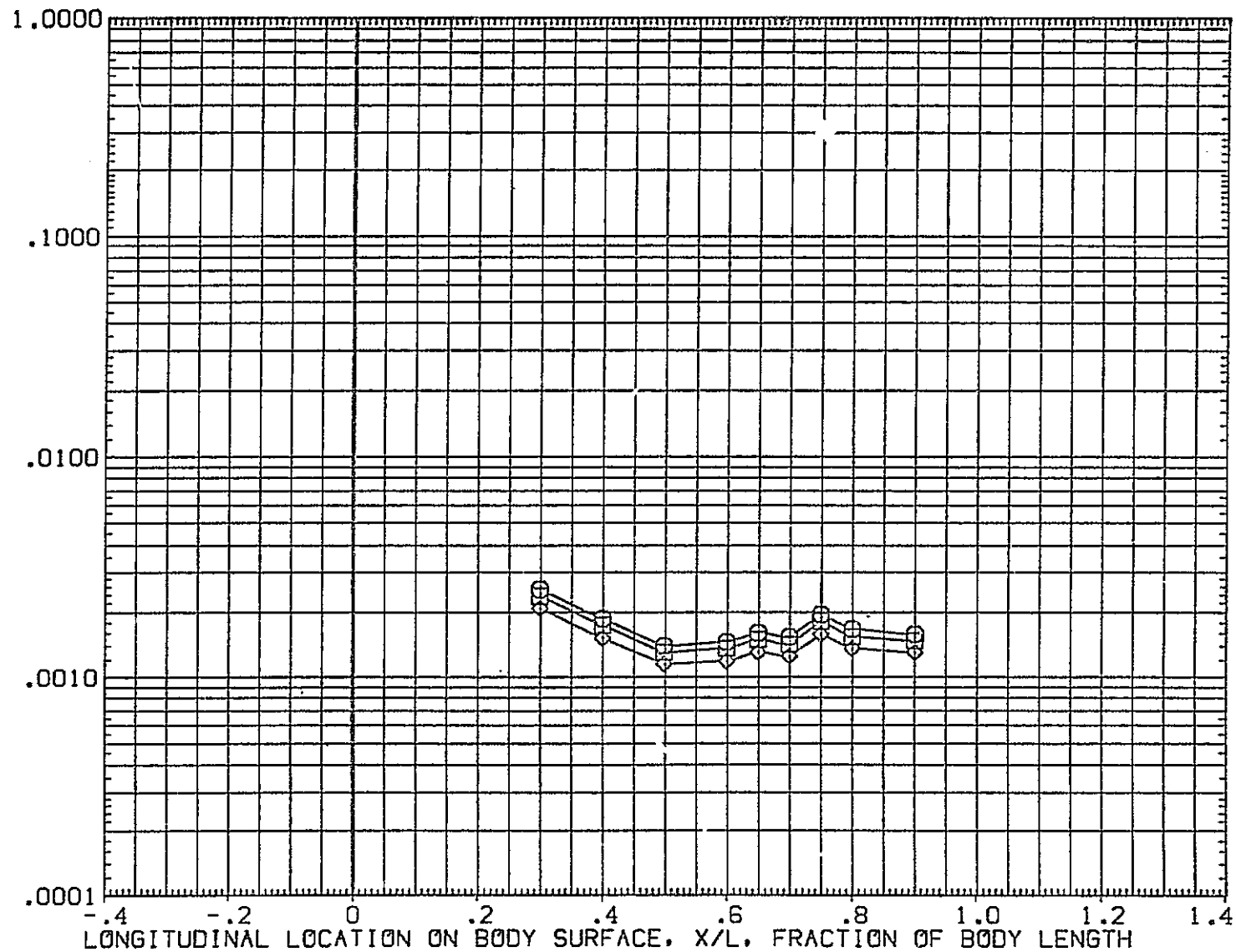
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	90.000	-10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	MACH 19.800

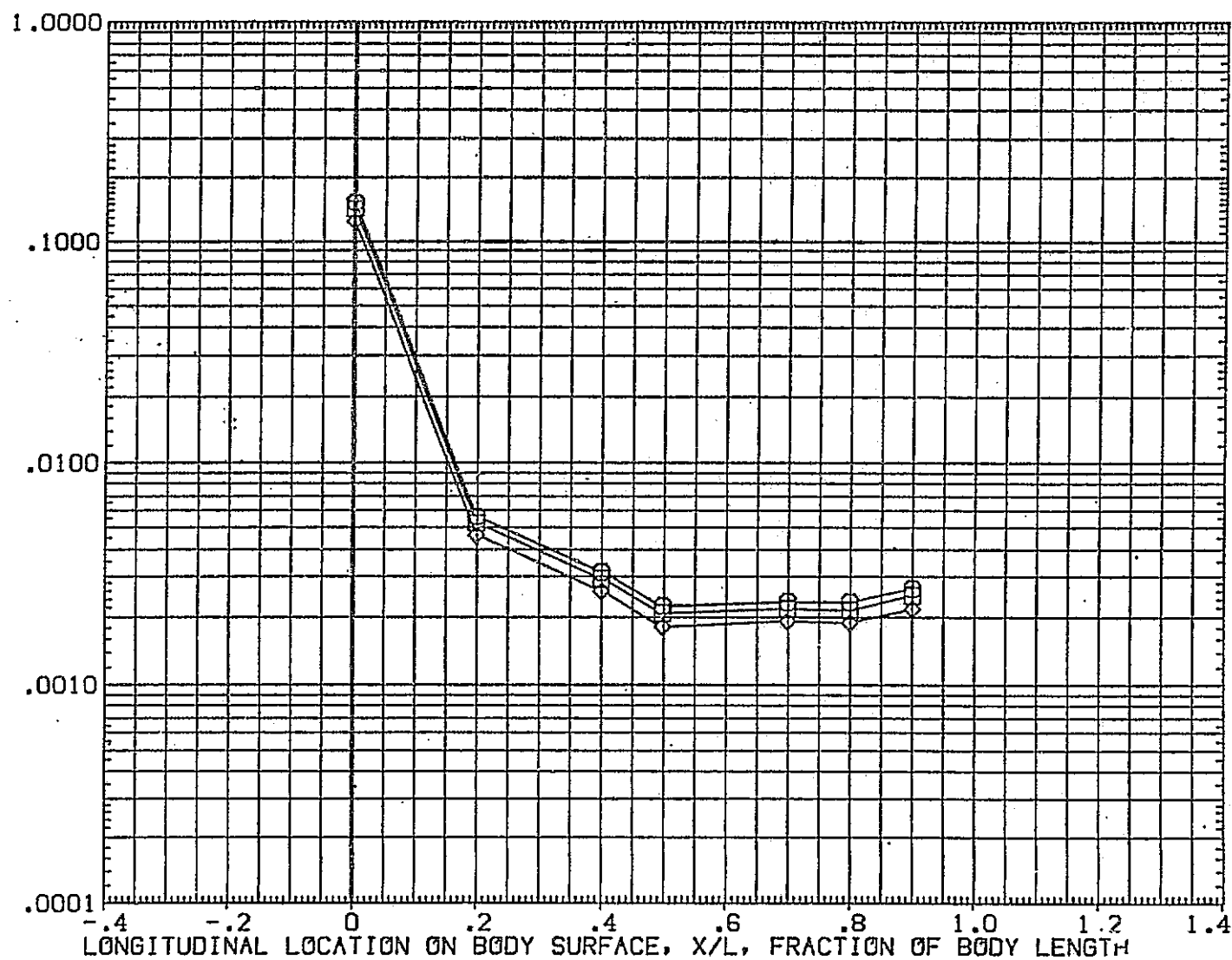
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

IH19 T8

EXTERNAL TANK

(SQET08)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	112.500	-10.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	HACH 19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

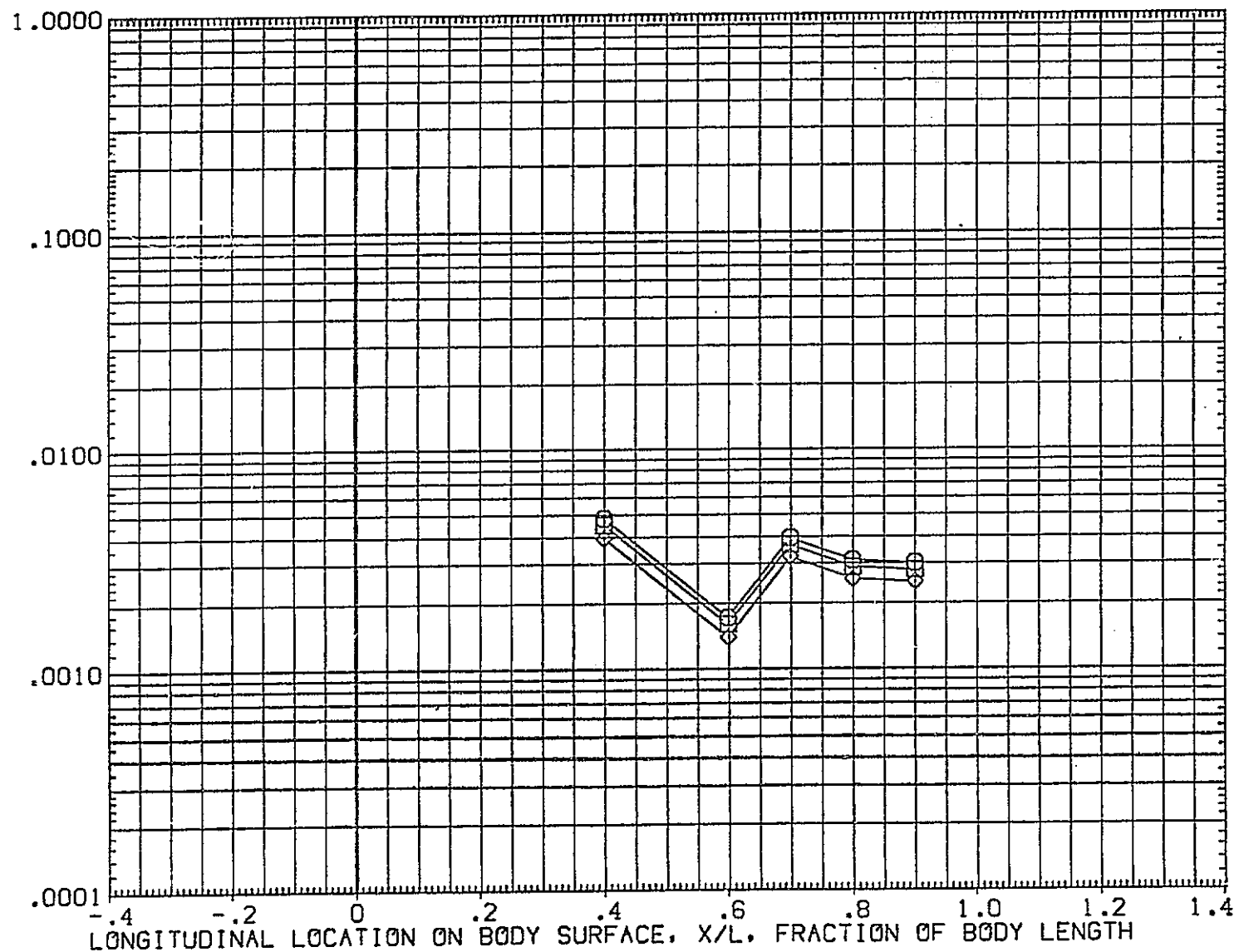


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	135.000	-10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	MACH 19.800

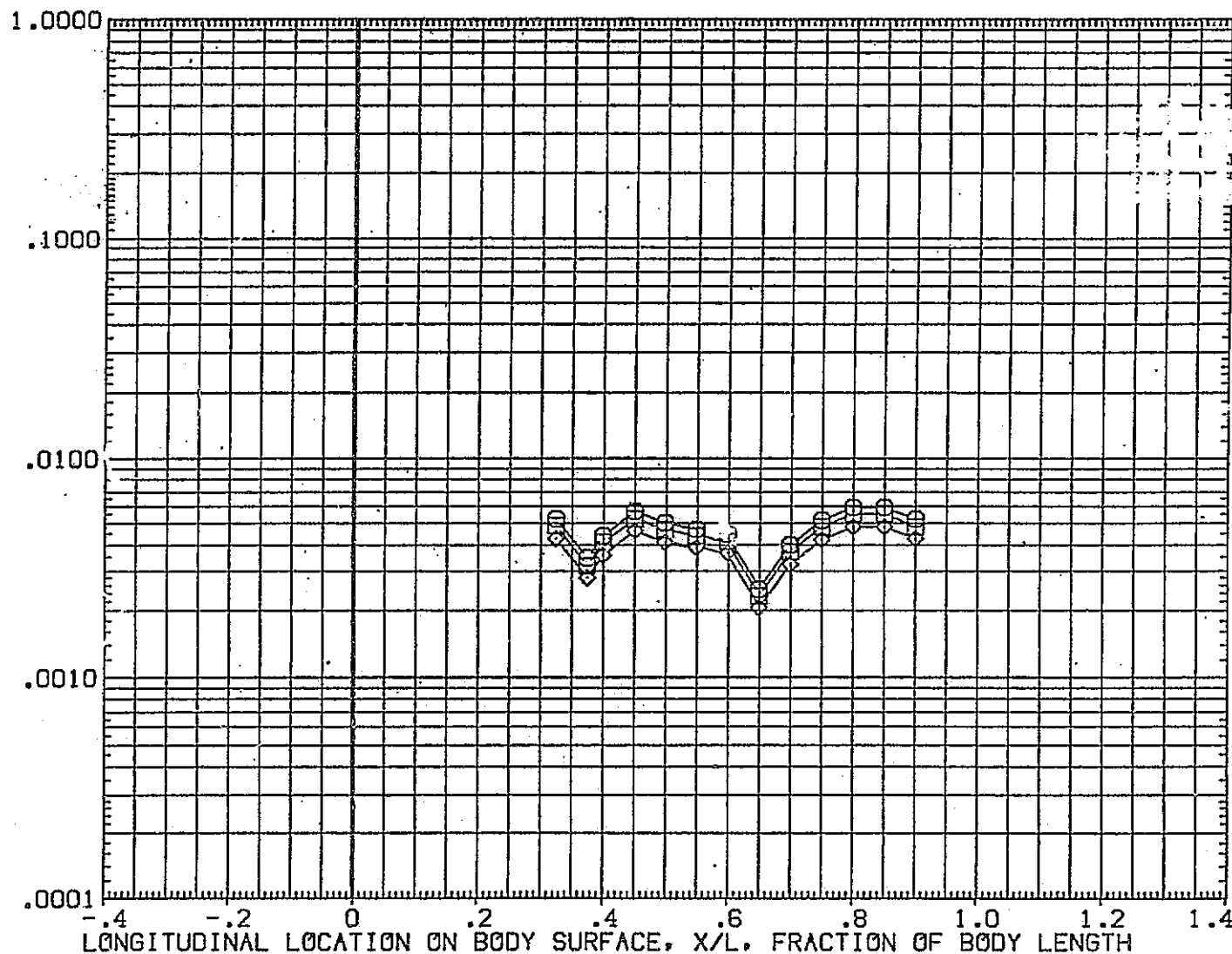
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

IH19 T8

EXTERNAL TANK

(SQET08)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	157.500	-10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	RN/L	
BLTRIP	.000	.500
	.030	19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

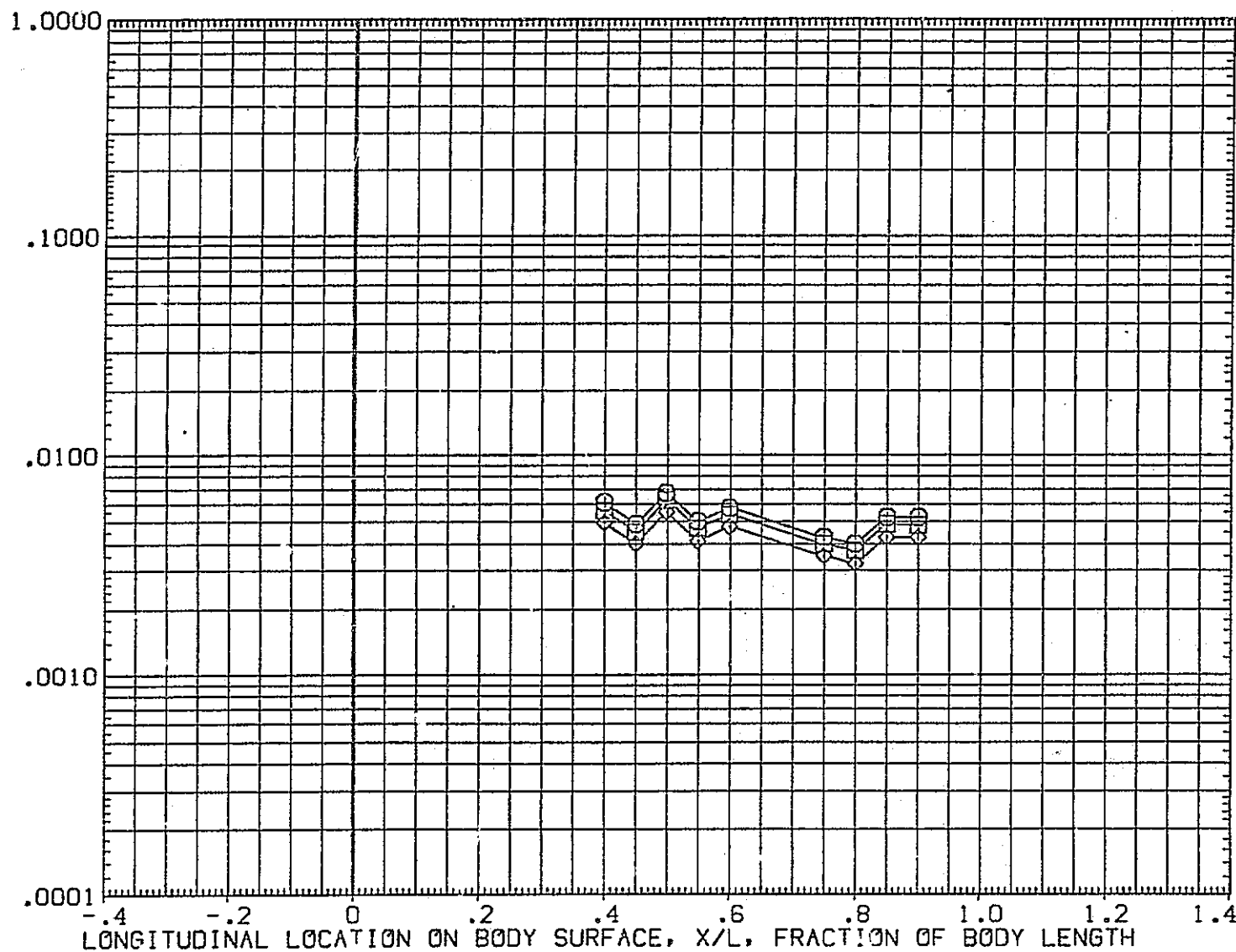


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	180.000	-10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.030	HACH	19.800

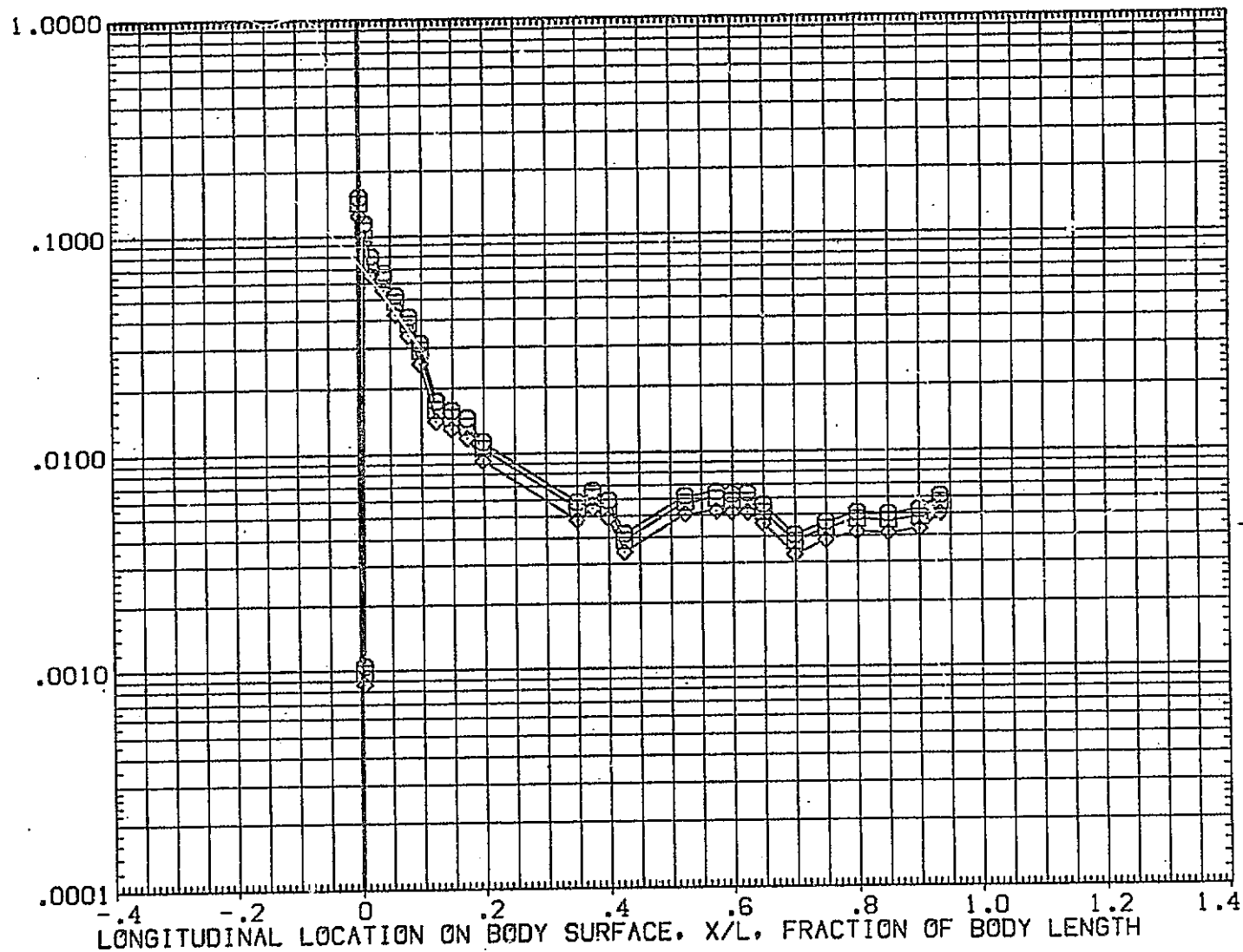
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $h/h_{REF}$ 

FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

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IH19 T8

EXTERNAL TANK

(SQET08)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	.000	-5.000
□	.900		
□	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	MACH 19.600

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

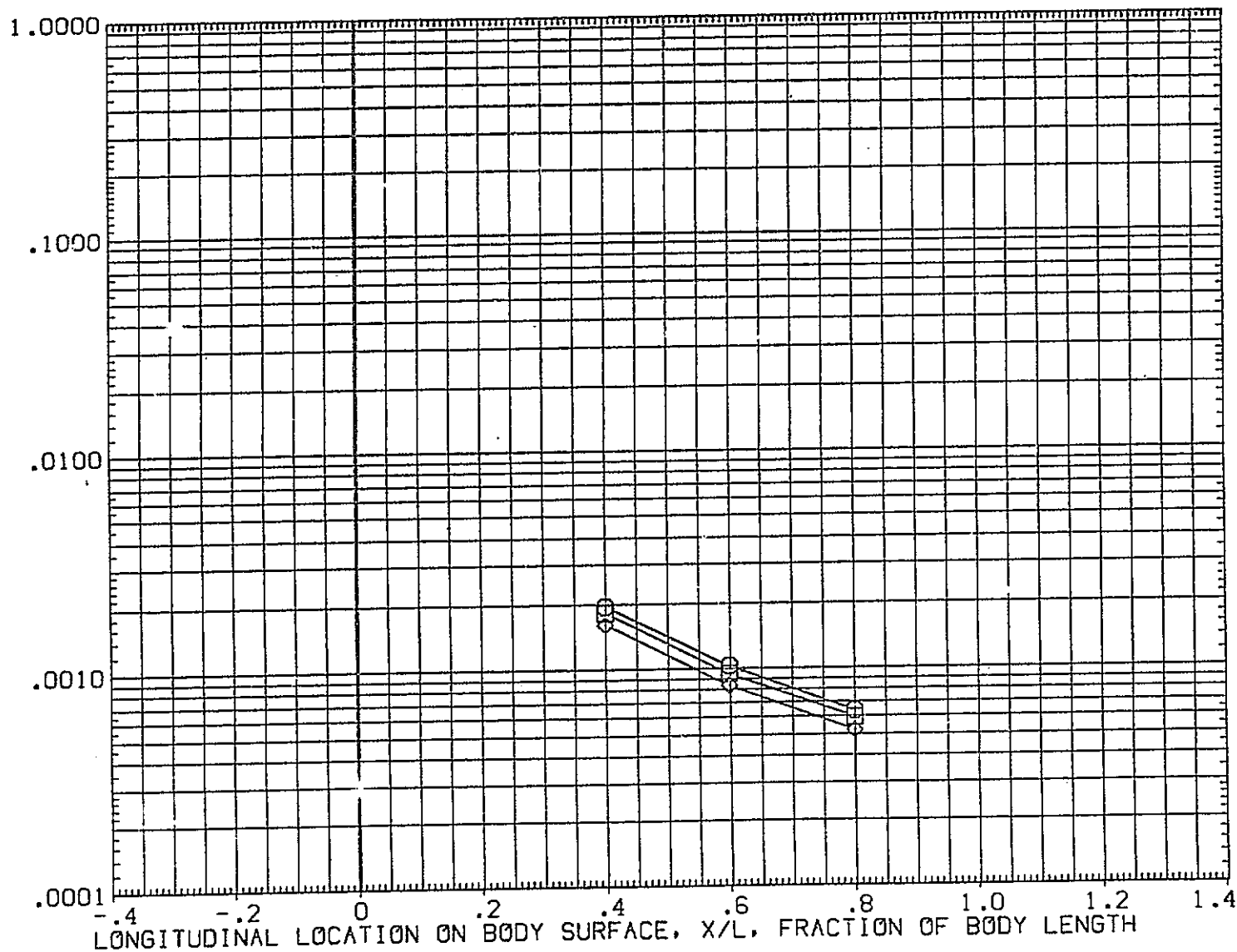


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

IH19 3

EXTERNAL TANK

(SQET08)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	45.000	-5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.030	MACH	19.800

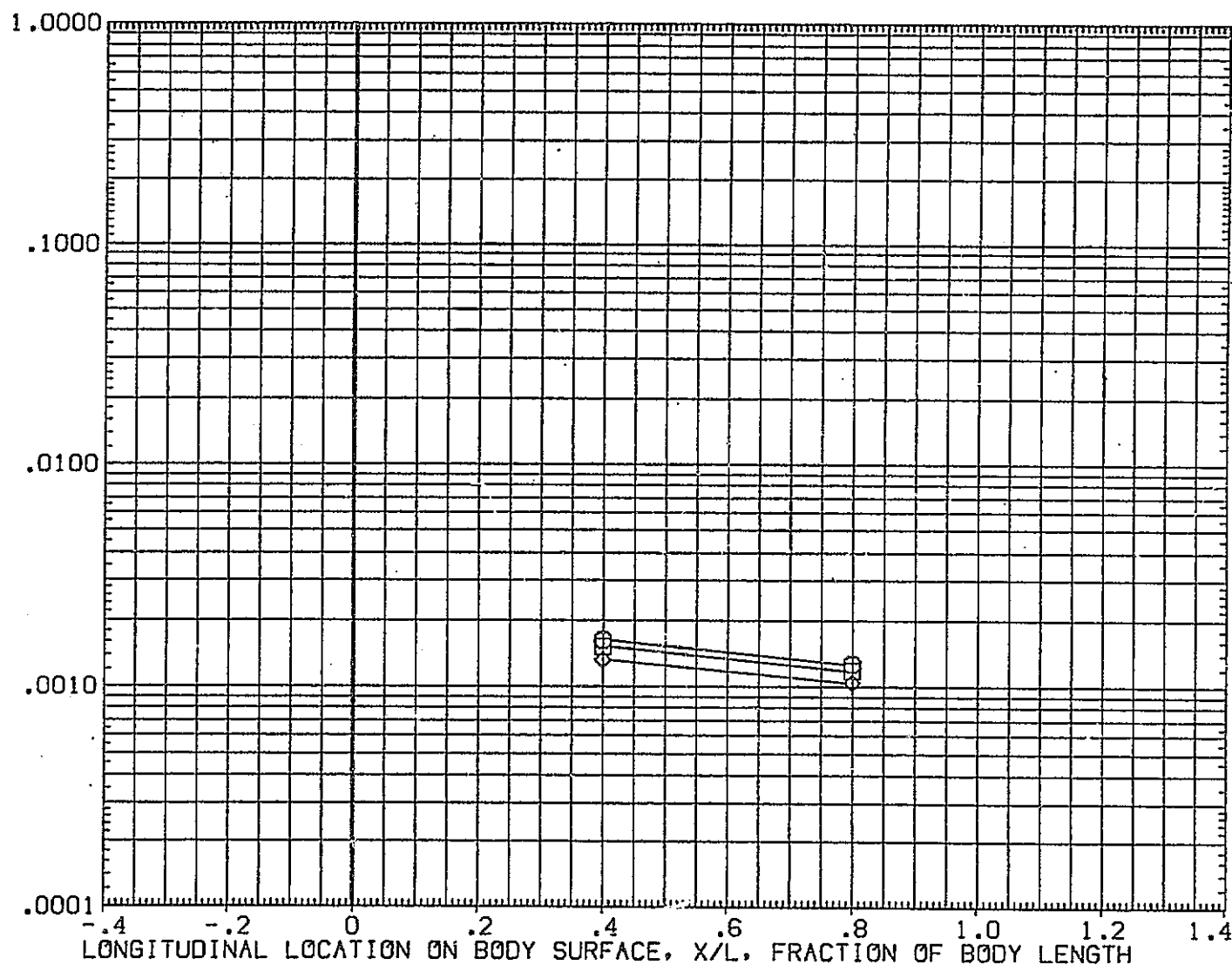
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $h/h_{REF}$ 

FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON



IH19 T8

EXTERNAL TANK

(SQET08)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	67.500	-5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.030	MACH	19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

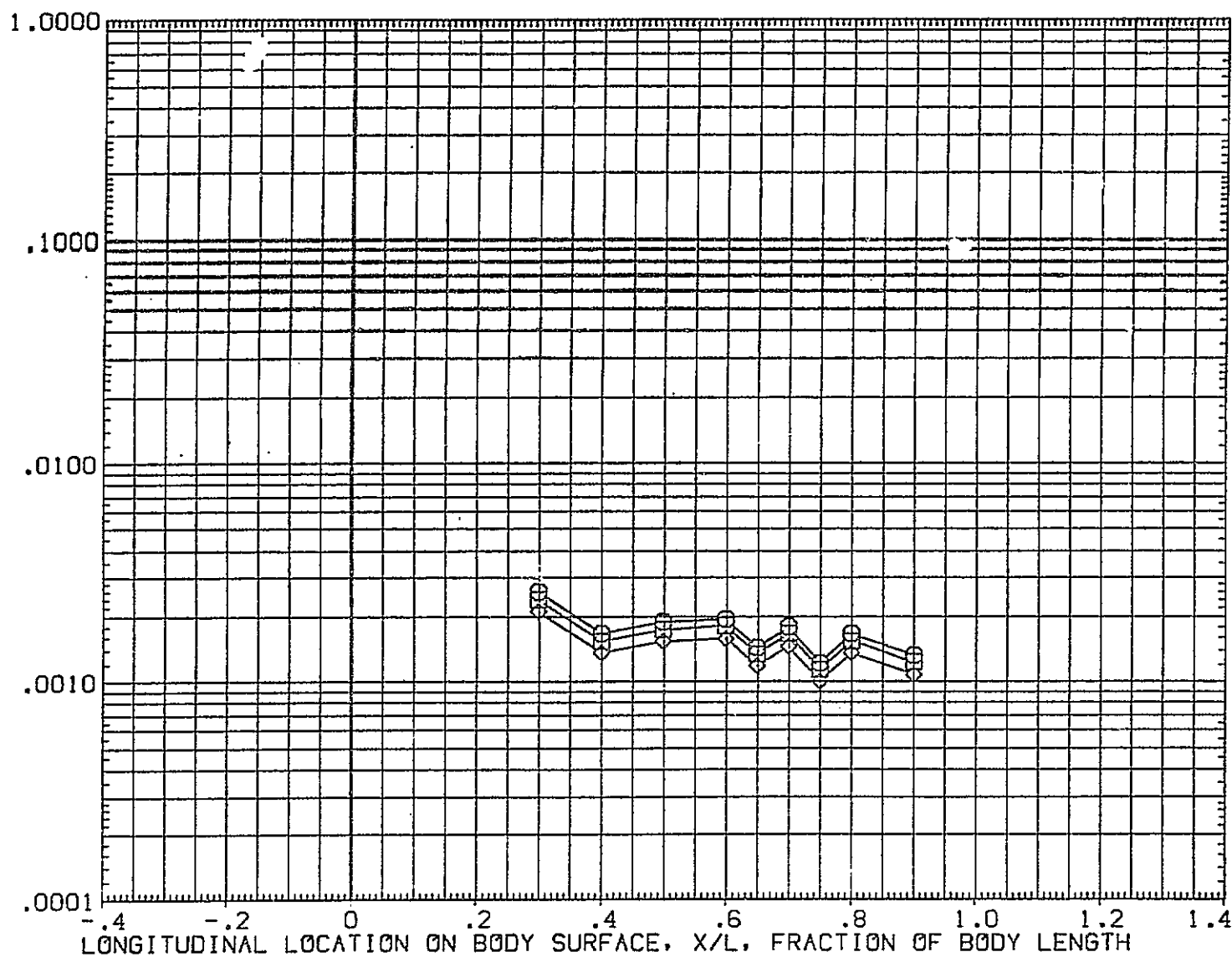


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

IH19 T8

EXTERNAL TANK

[SQET08]

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	90.000	-5.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	MACH 19.800

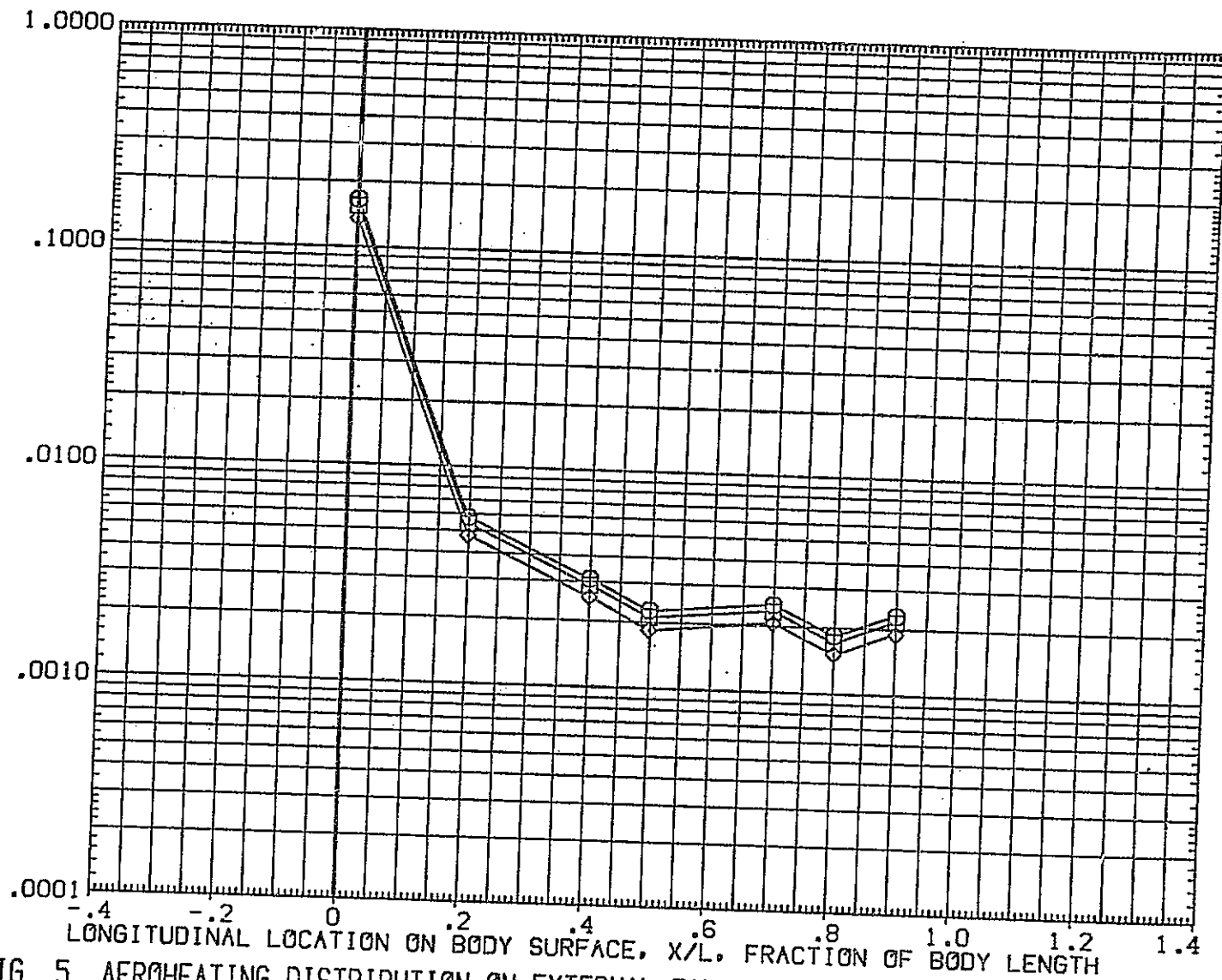
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

IH19 T8

EXTERNAL TANK

(SQET08)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	112.500	-5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	MACH 19.800

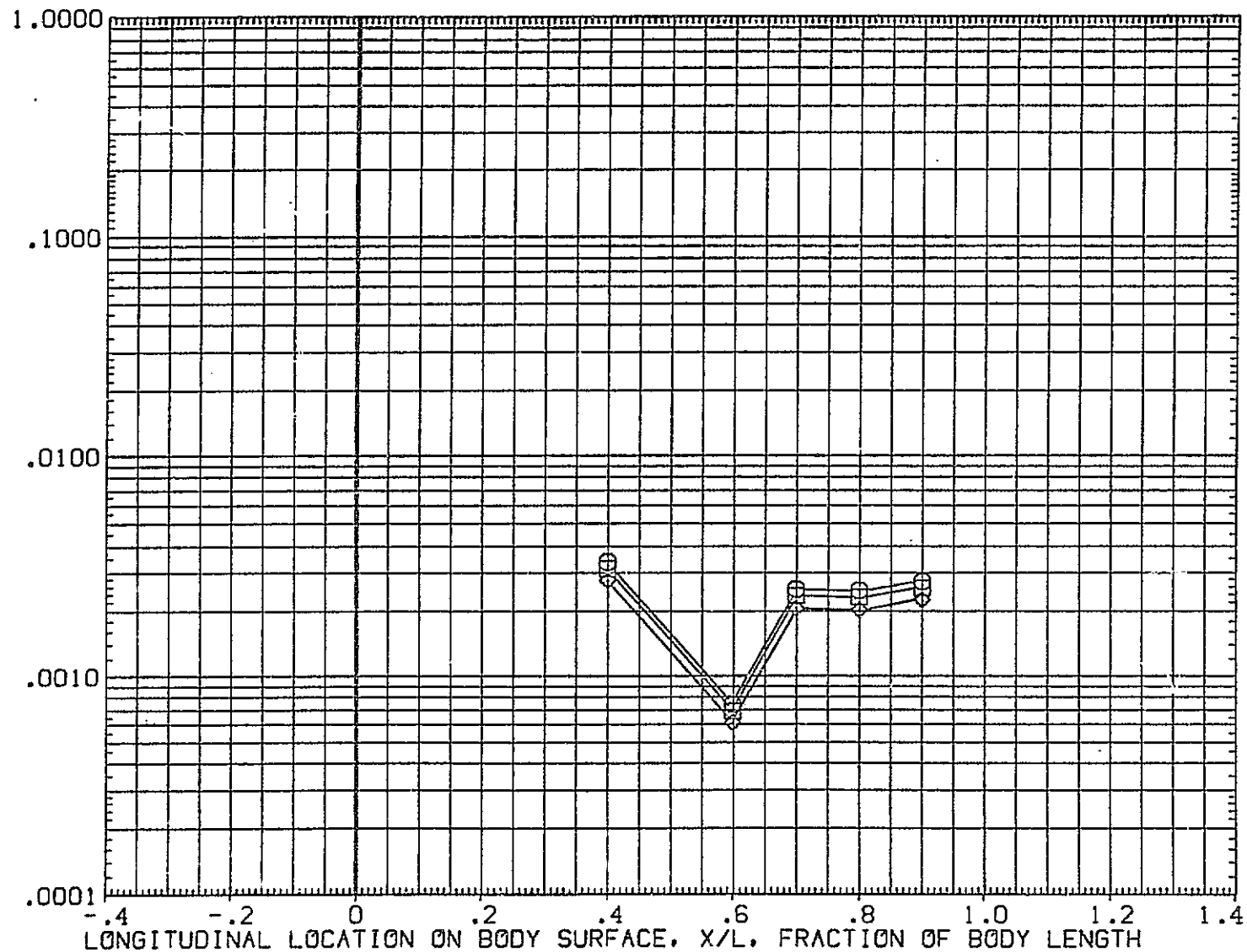
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

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IH19 T8

EXTERNAL TANK

(SQET08)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	135.000	-5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	MACH 19.800

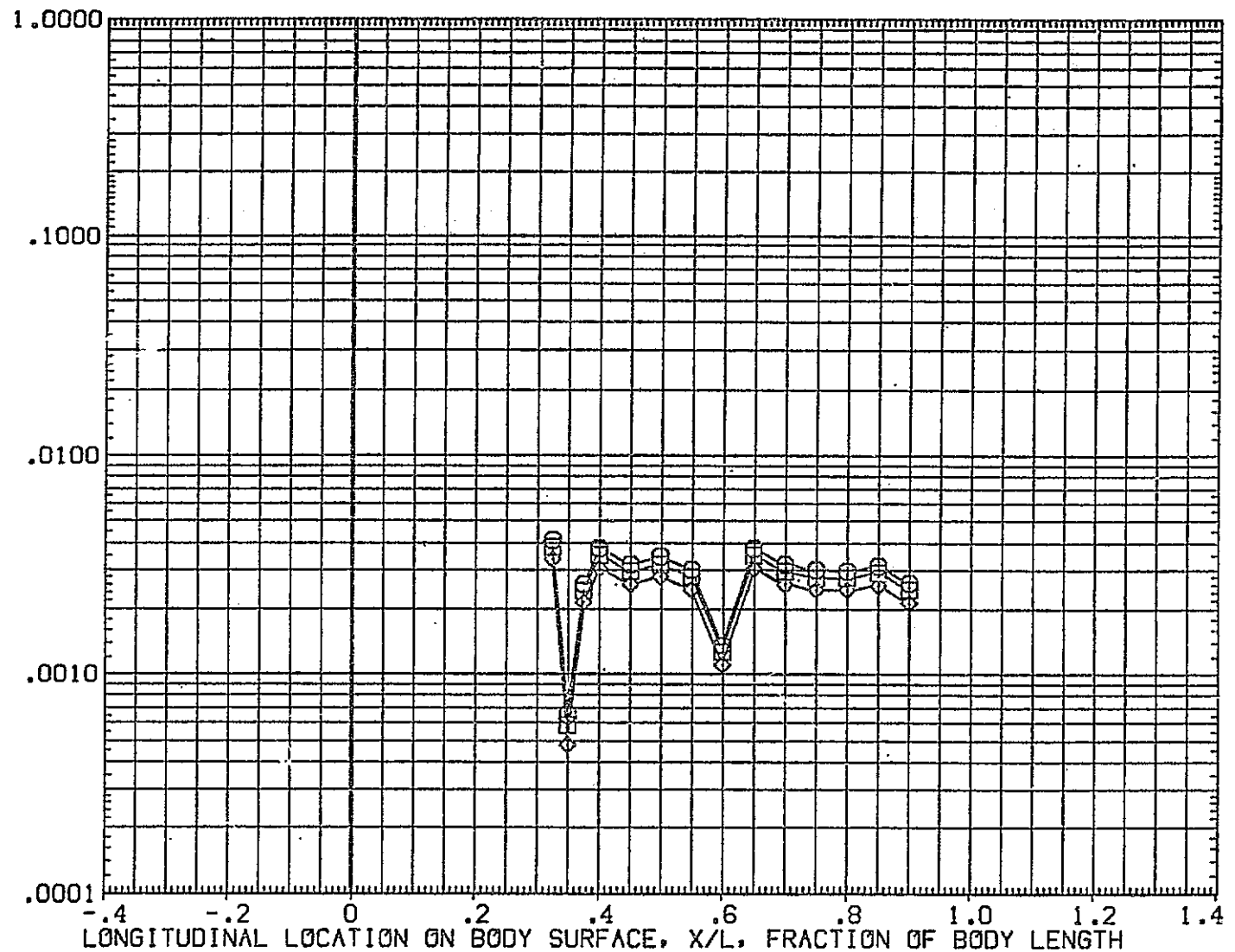
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

IH19 T8

EXTERNAL TANK

(SQET08)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	157.500	-5.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	MACH 19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

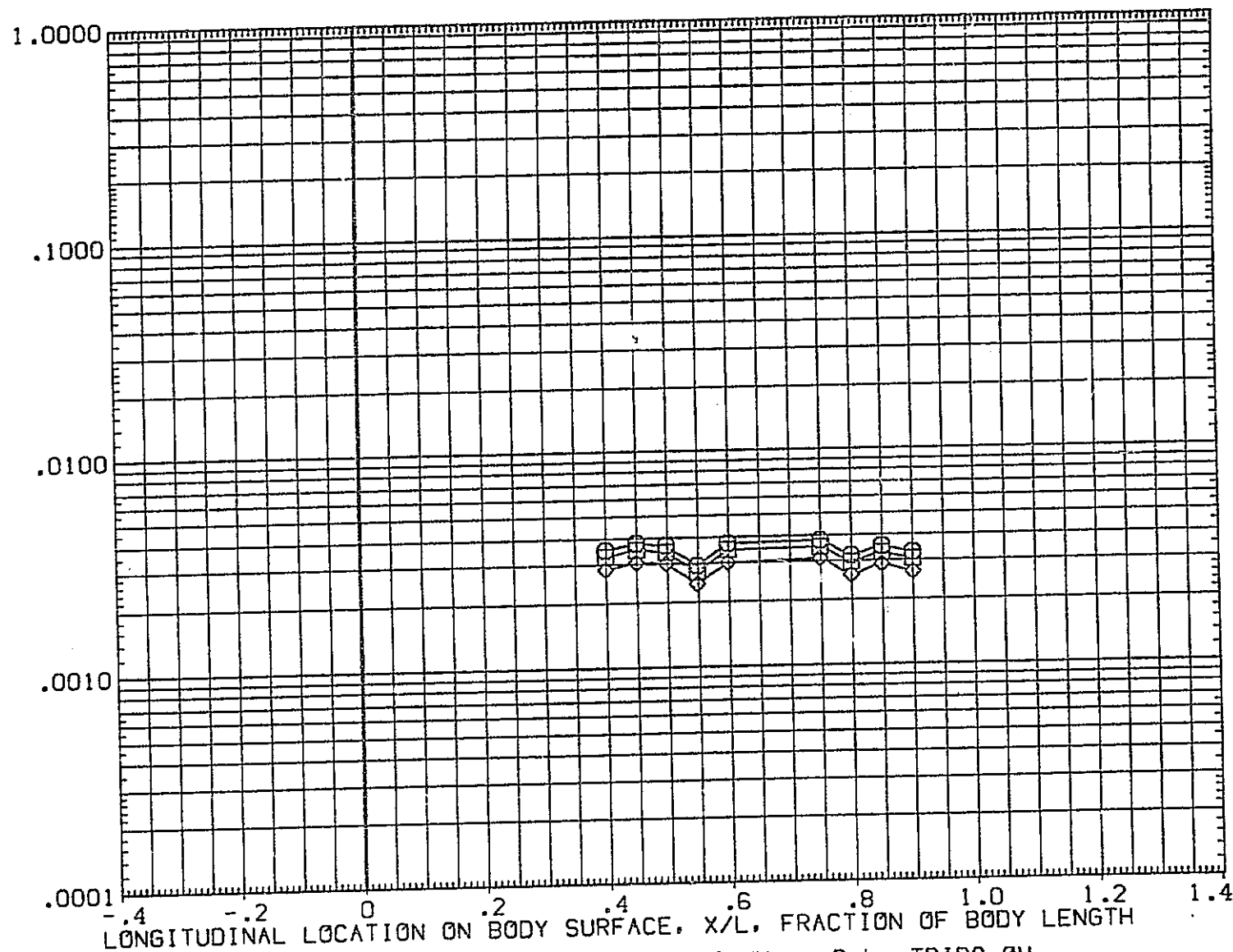


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

IH19 T8

EXTERNAL TANK

(SQET08)

SYMBOL  
◇ □ ○HAW/HT  
.850  
.900  
1.000PHI  
160.000ALPHA  
-5.000

PARAMETRIC VALUES

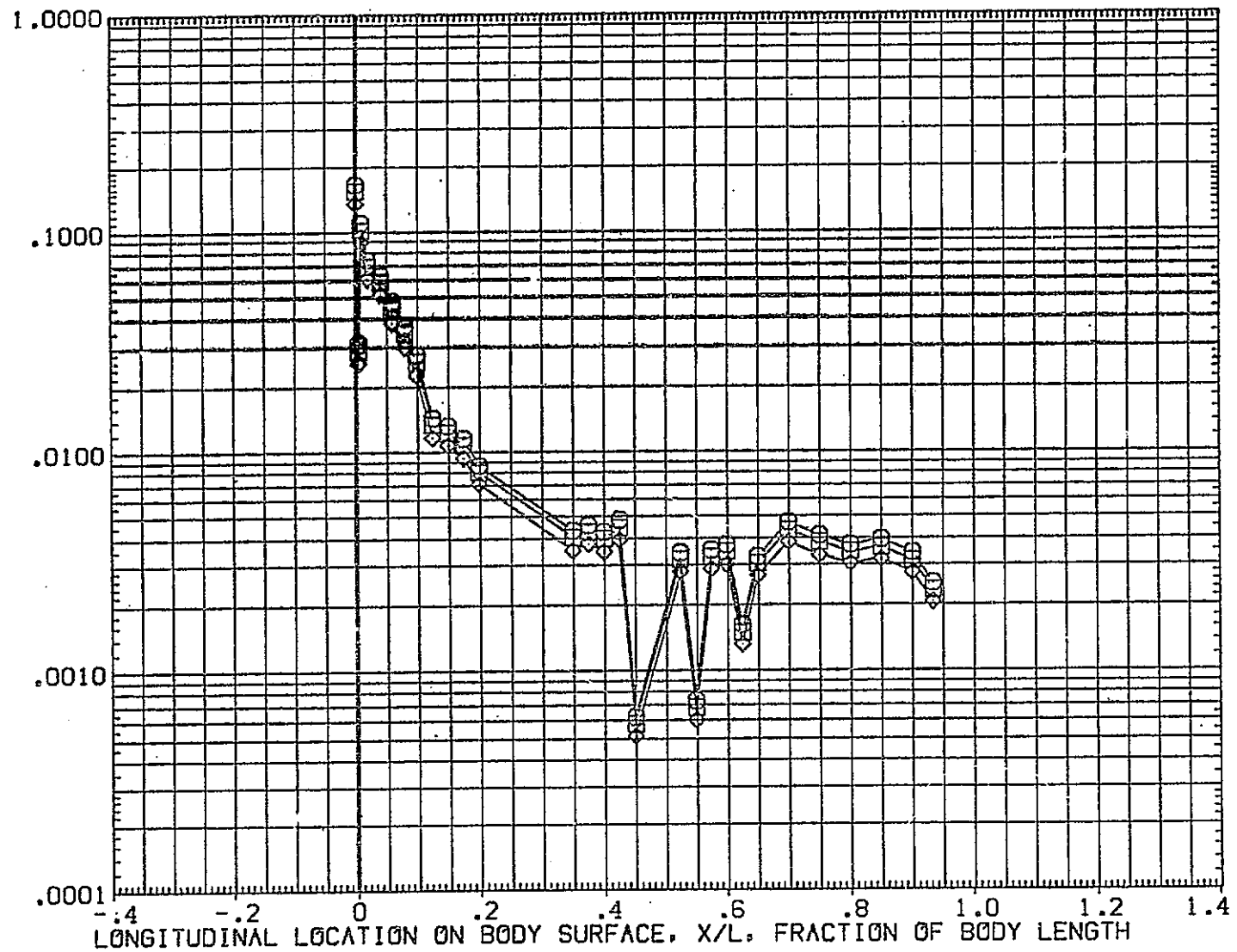
BETA  
BLTRIP.000  
.030RN/L  
MACH.500  
19.600RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

IH19 T8

EXTERNAL TANK

(SQET08)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	.000	.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	HACH 19.800

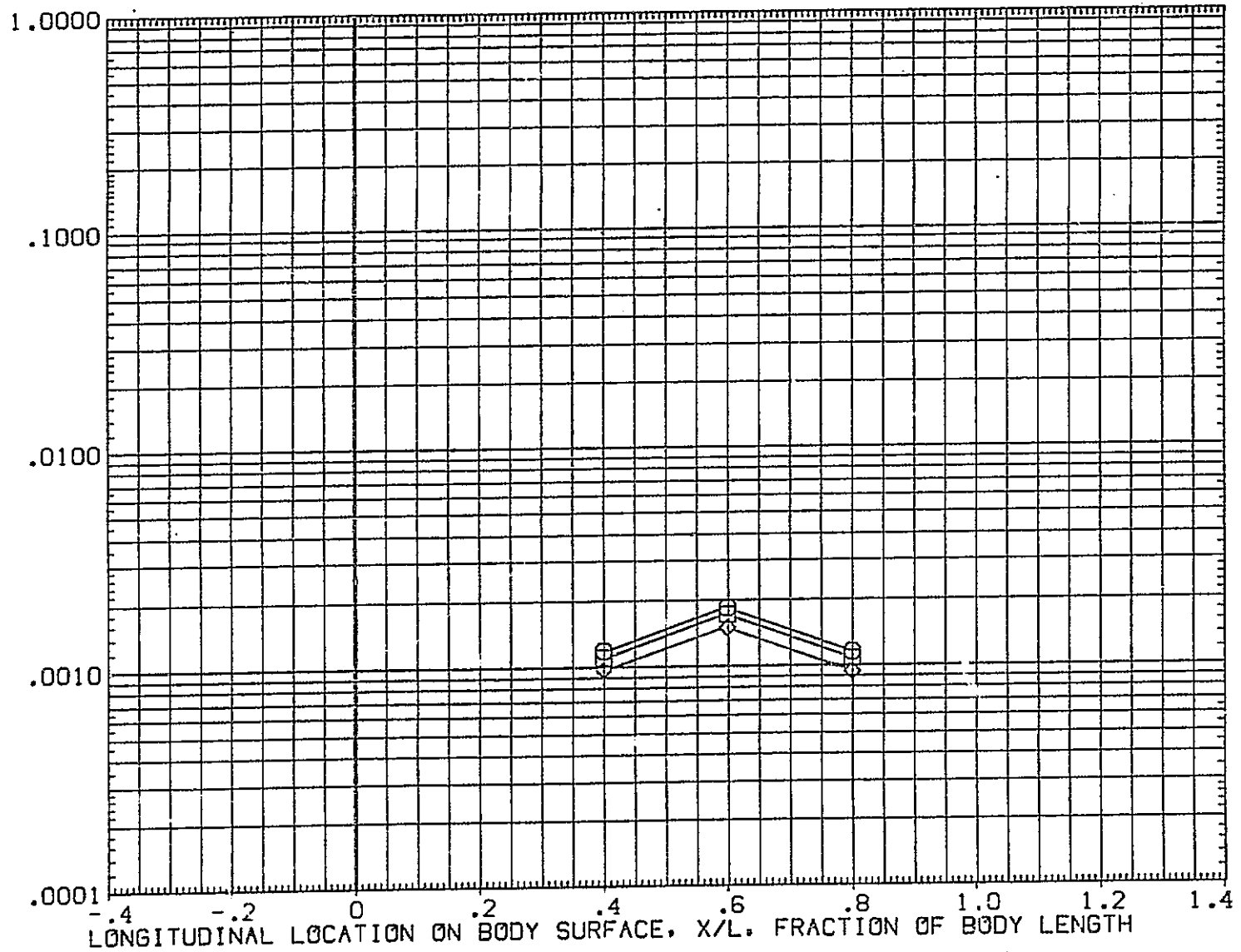
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	45.000	.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	HACH 19.800

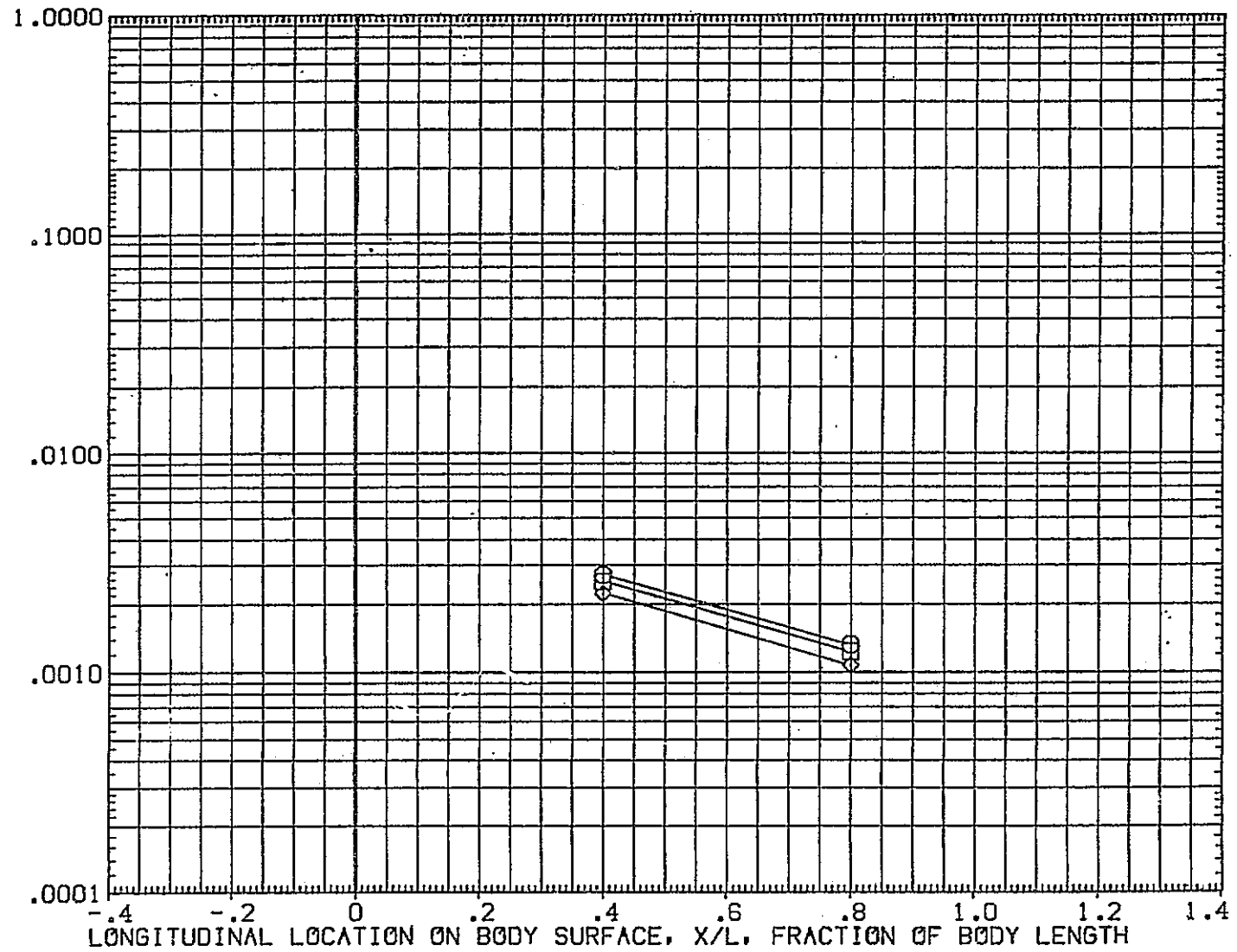
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $h/h_{REF}$ 

FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON



IH19 T8

EXTERNAL TANK

(SQET08)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	67.500	.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	MACH 19.800

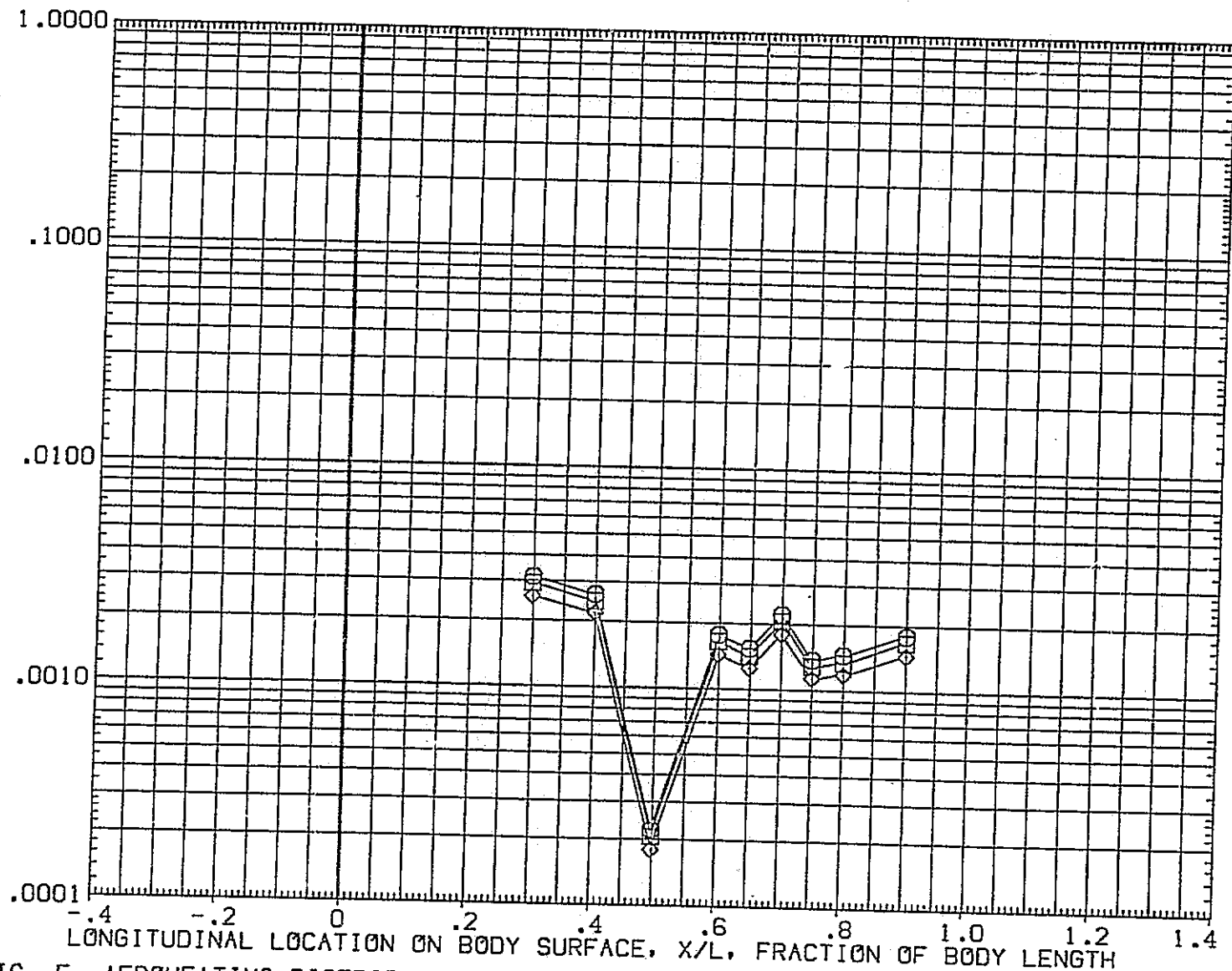
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

IH19 T8

EXTERNAL TANK

(SQET08)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	90.000	.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	HACH 19.800

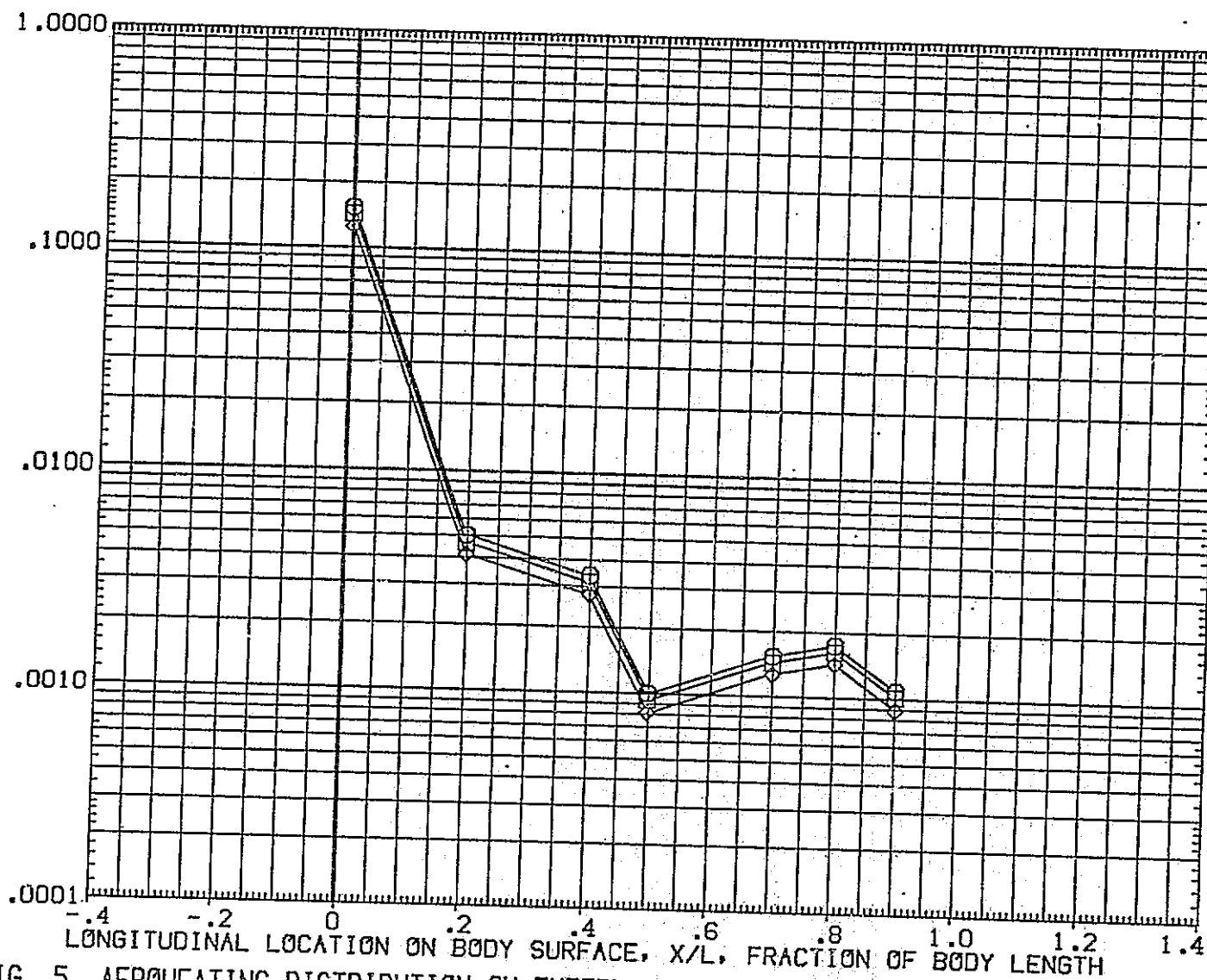
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $h/h_{REF}$ 

FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

IH19 T8

EXTERNAL TANK

(SQET08)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	112.500	.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	HACH 19.800

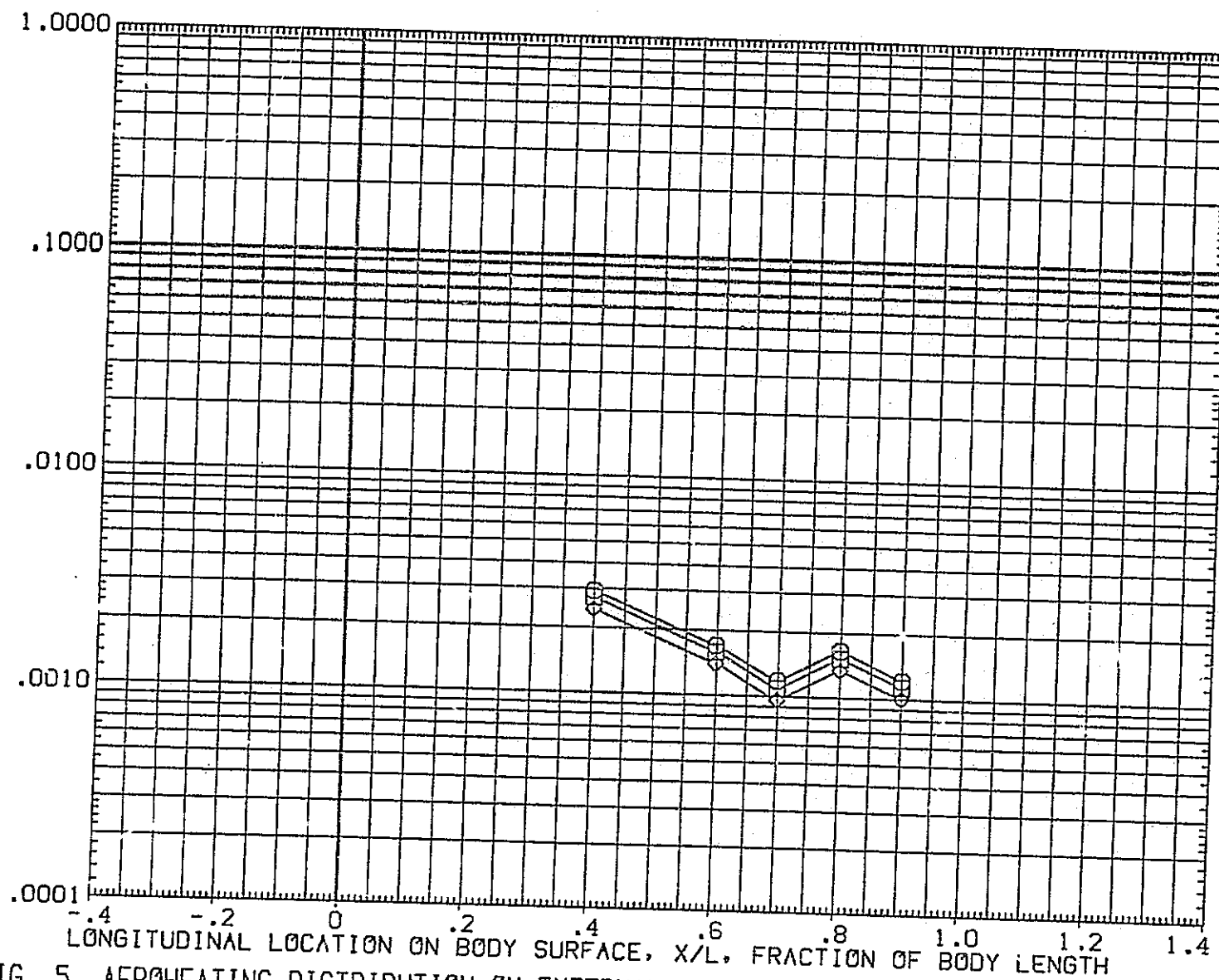
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	135.000	.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	MACH 19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

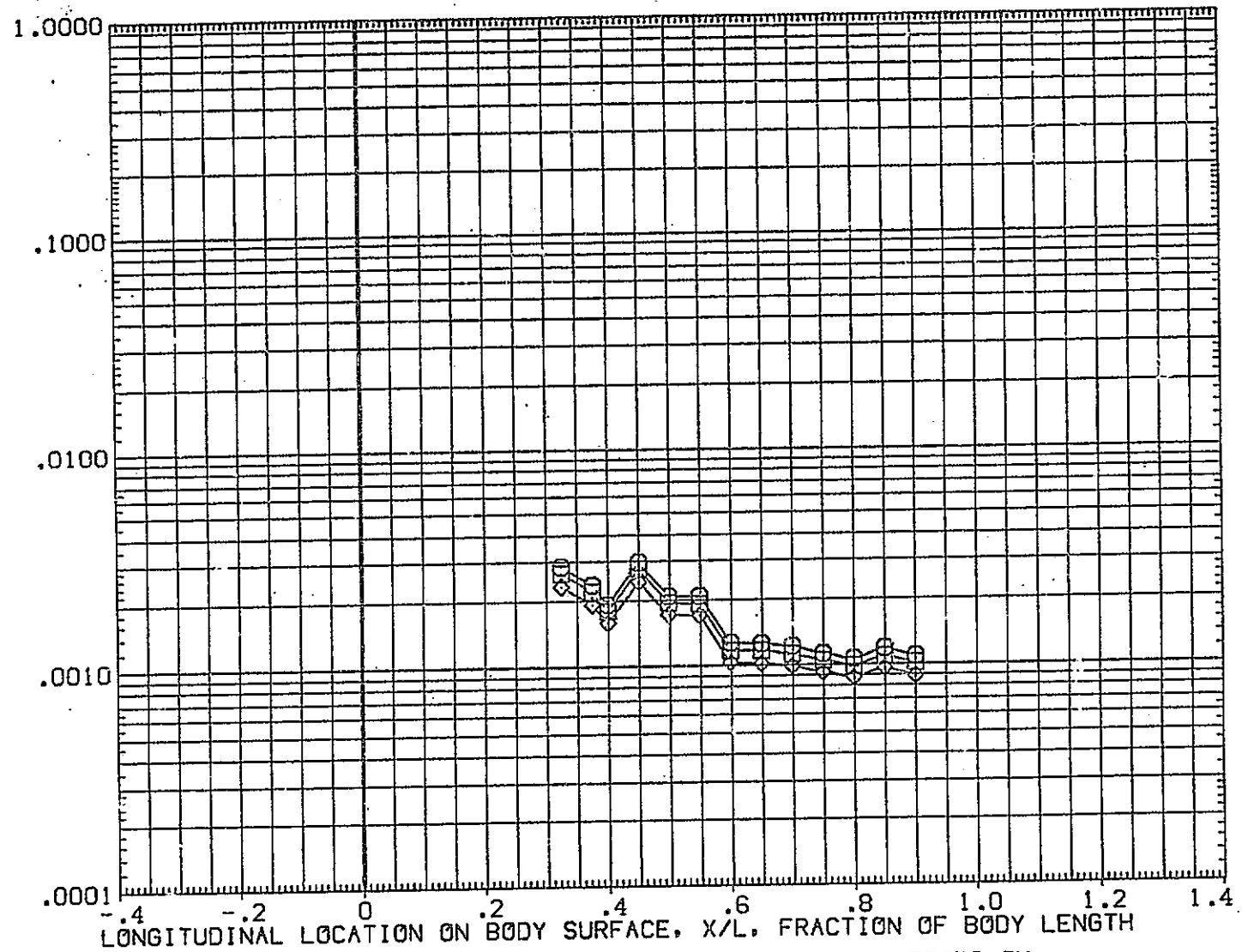


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

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IH19 T8

EXTERNAL TANK

(SQET08)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	157.500	.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	MACH 19.800

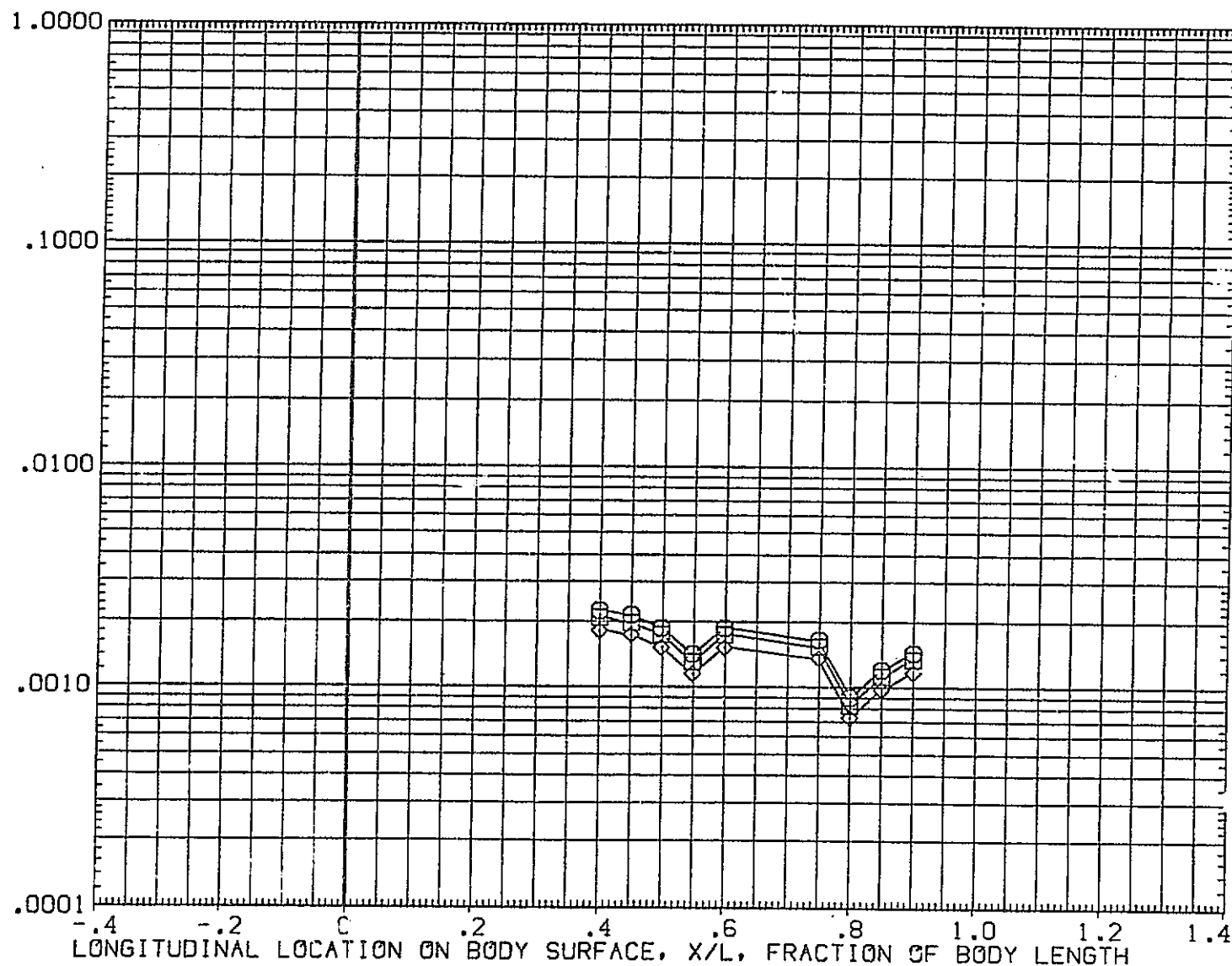
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

SYMBOL	HAW/HT	PHI	ALPHA
□	.850	180.000	.000
◇	.500		
	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	MACH 19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

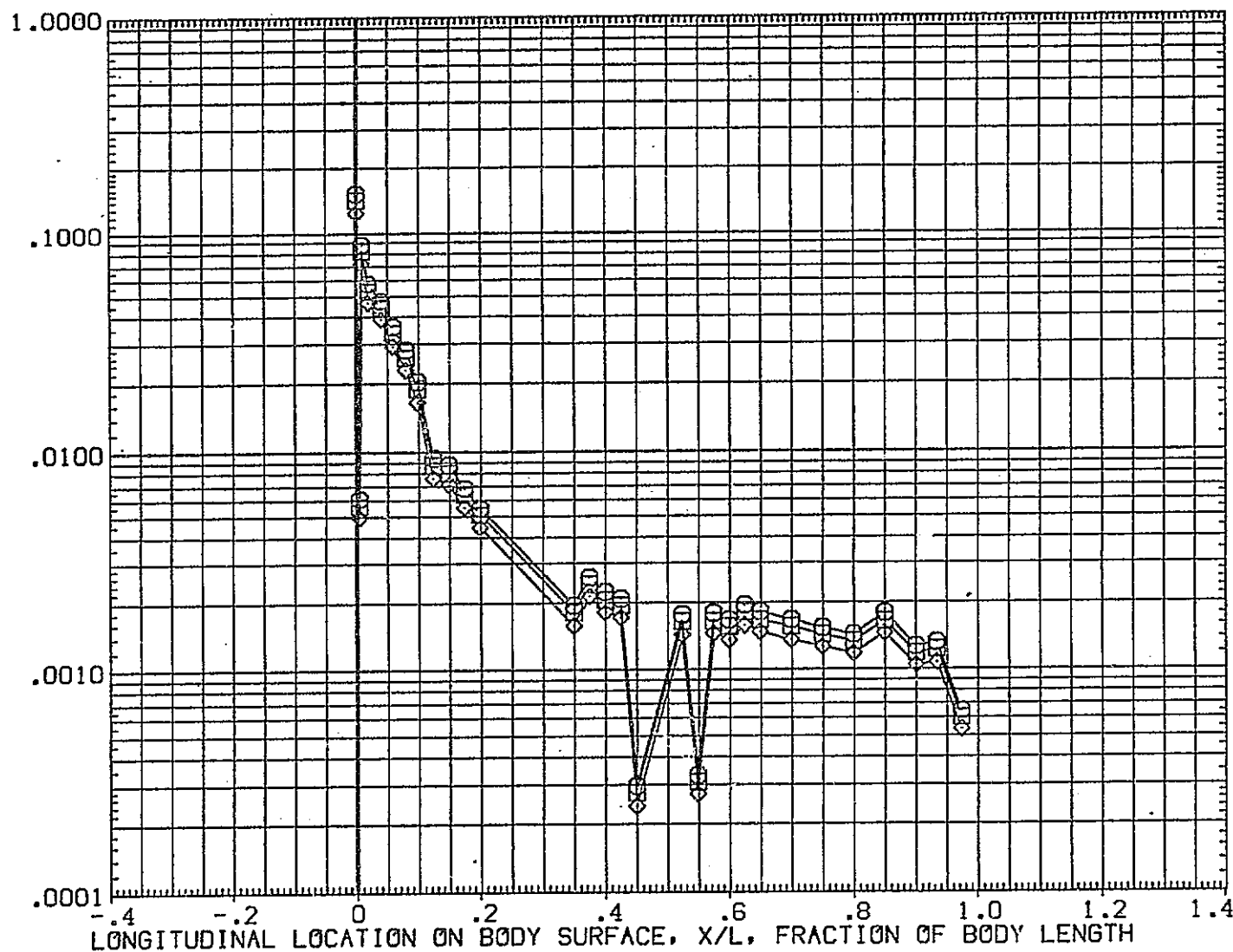
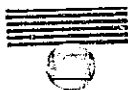


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON



IH19 T8

EXTERNAL TANK

(SQET08)

SYMBOL

HAW/HT

PHI

ALPHA

BETA

PARAMETRIC VALUES

BLTRIP

.000

RN/L

.500

.030

MACH

19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

◇ □ ○

.850  
.900  
1.000

.000

5.000

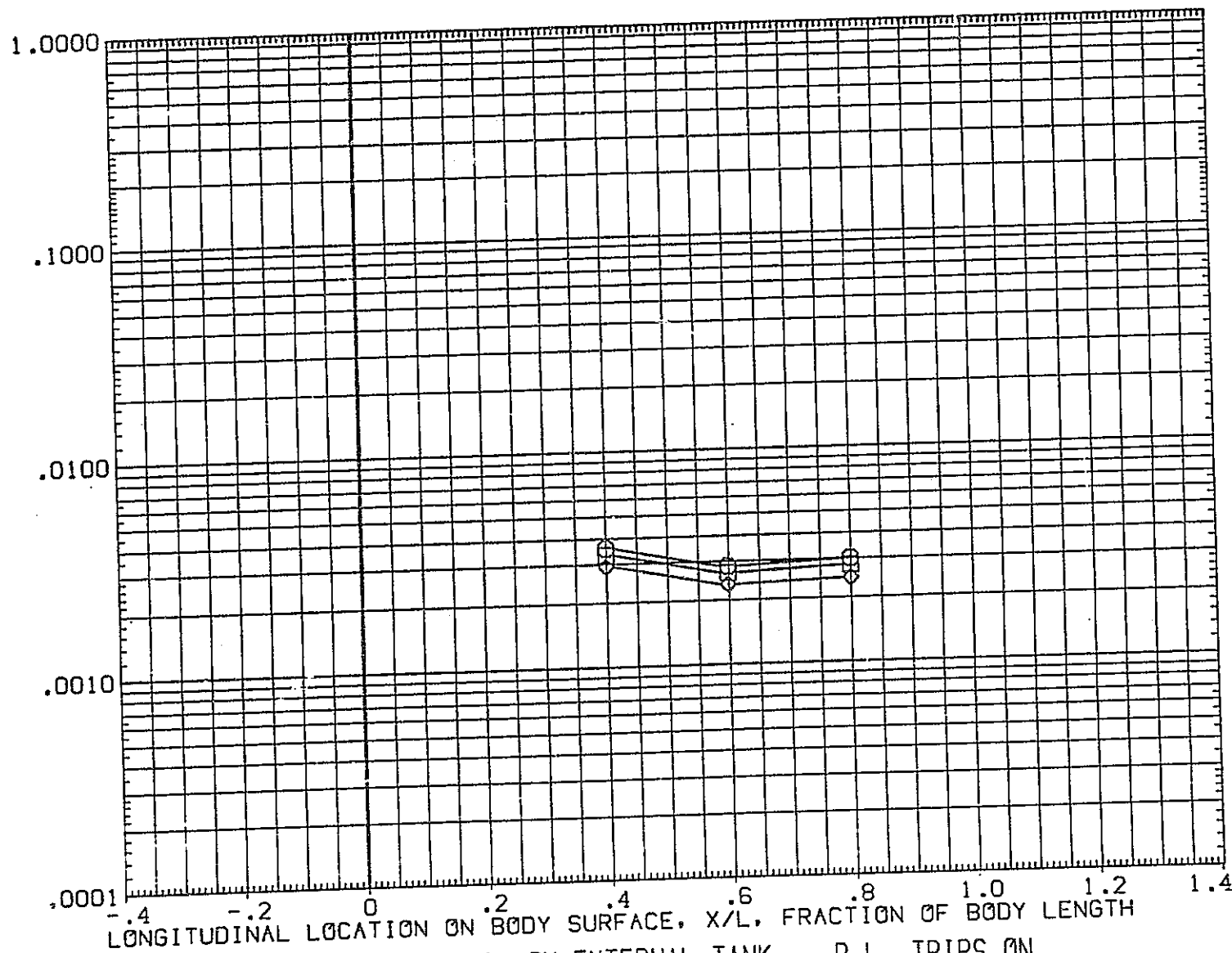


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	45.000	5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	MACH 19.800

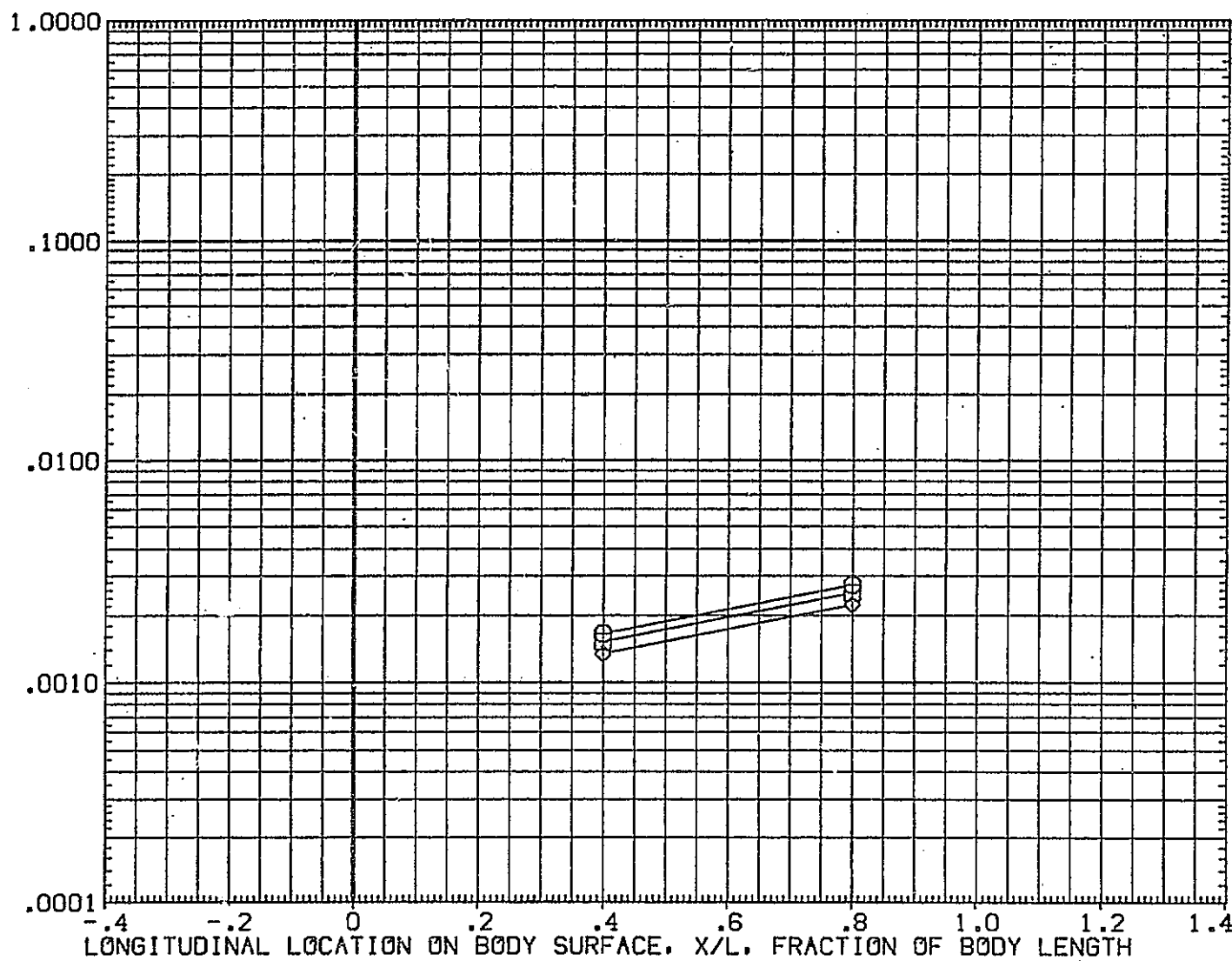
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON





IH19 T8

EXTERNAL TANK

(SQET08)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	67.500	5.000
□	.900		
□	1.000		

PARAMETRIC VALUES		
BETA	.000	RM/L .500
BLTRIP	.030	MACH 19.800

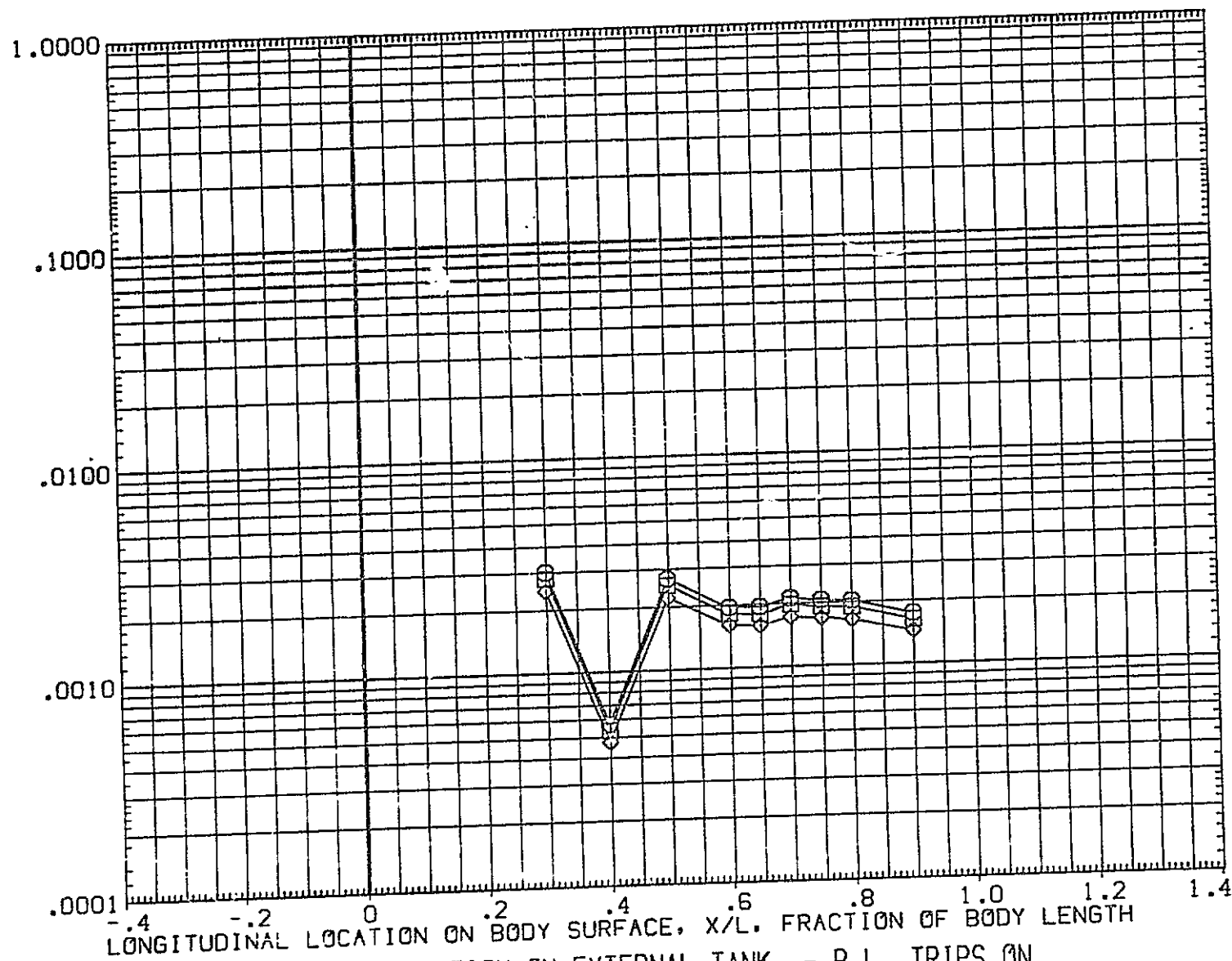
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

SYMBOL	HAW/HT	PHI	ALPHA
□	.850	90.000	5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .300
BLTRIP	.030	HACH 19.800

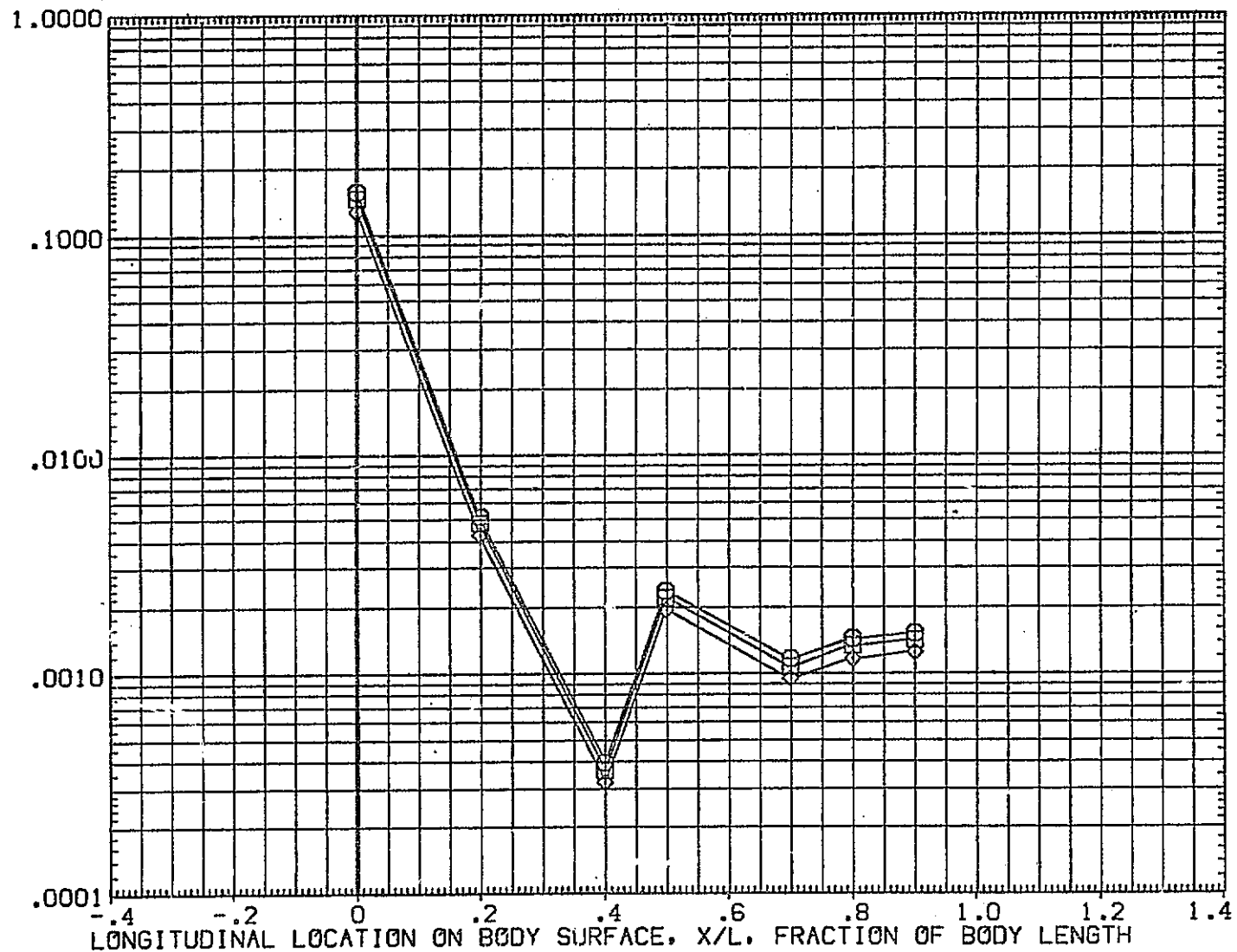
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

IH19 T8

EXTERNAL TANK

(SQET08)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	112.500	5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.030	NACH	19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

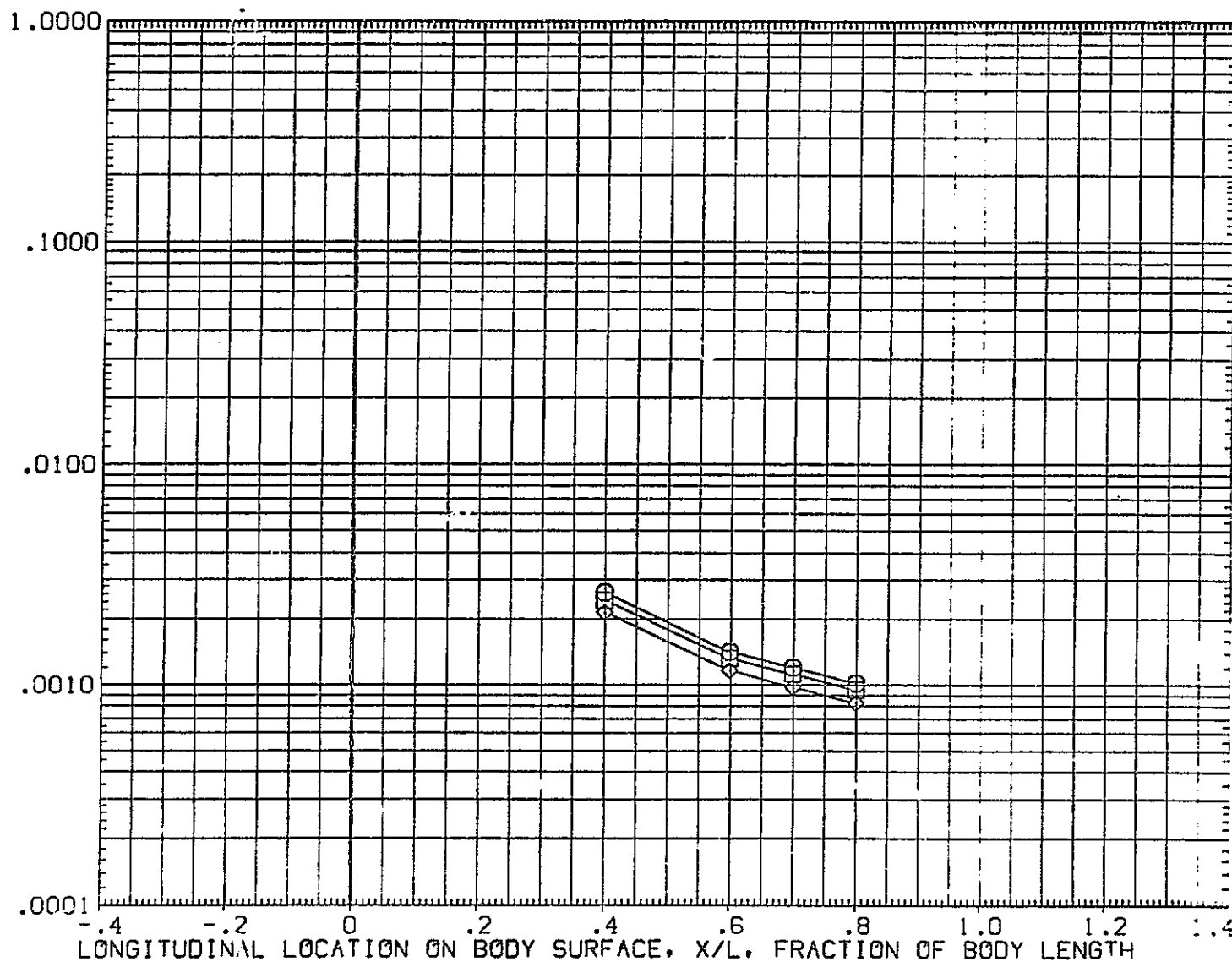


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	135.000	5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L
BLTRIP	.030	HACH
		.500
		19.600

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

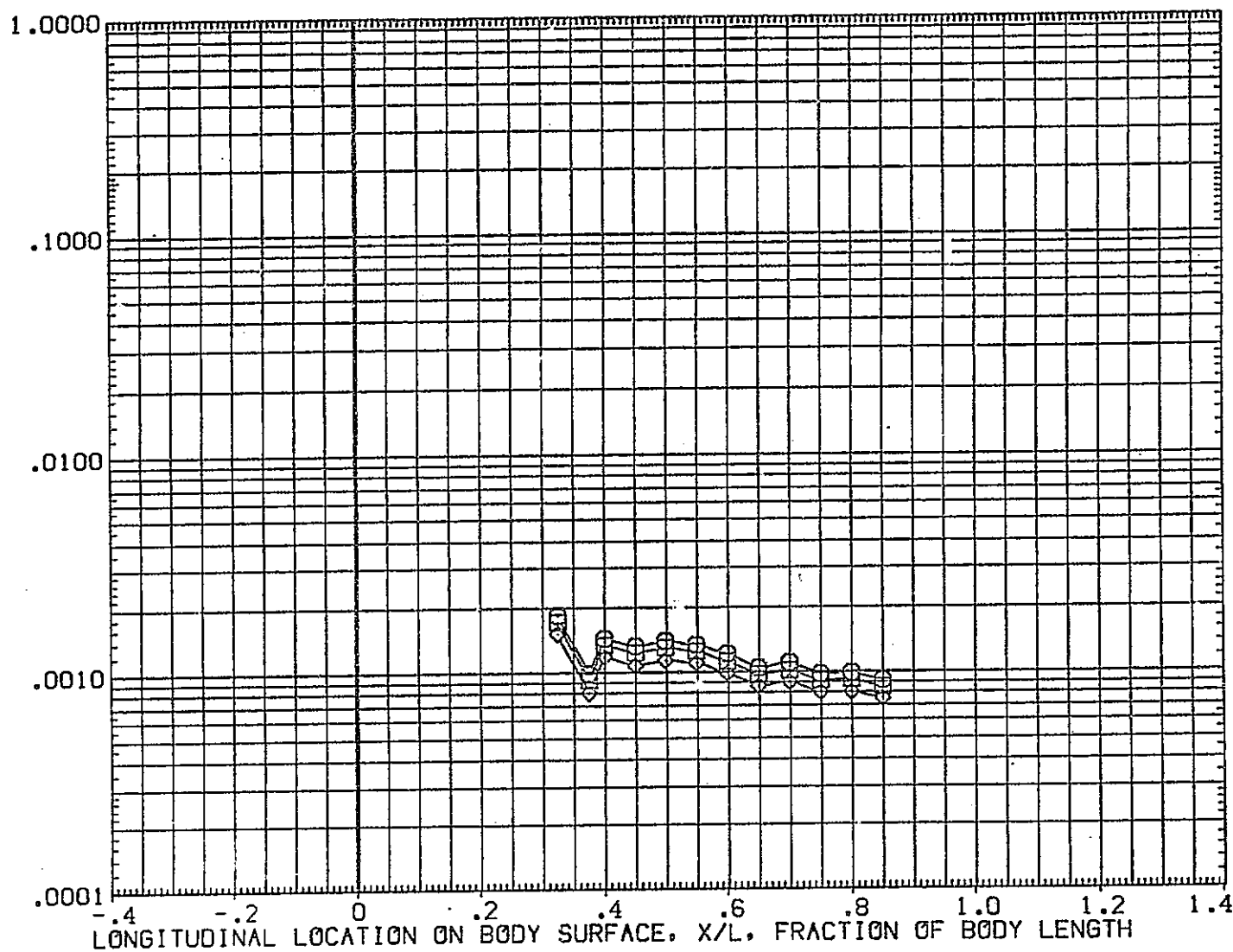


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

IH19 T8

EXTERNAL TANK

(SQET08)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	157.500	5.000
□	.900		
◇	.1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	HACH 19.800

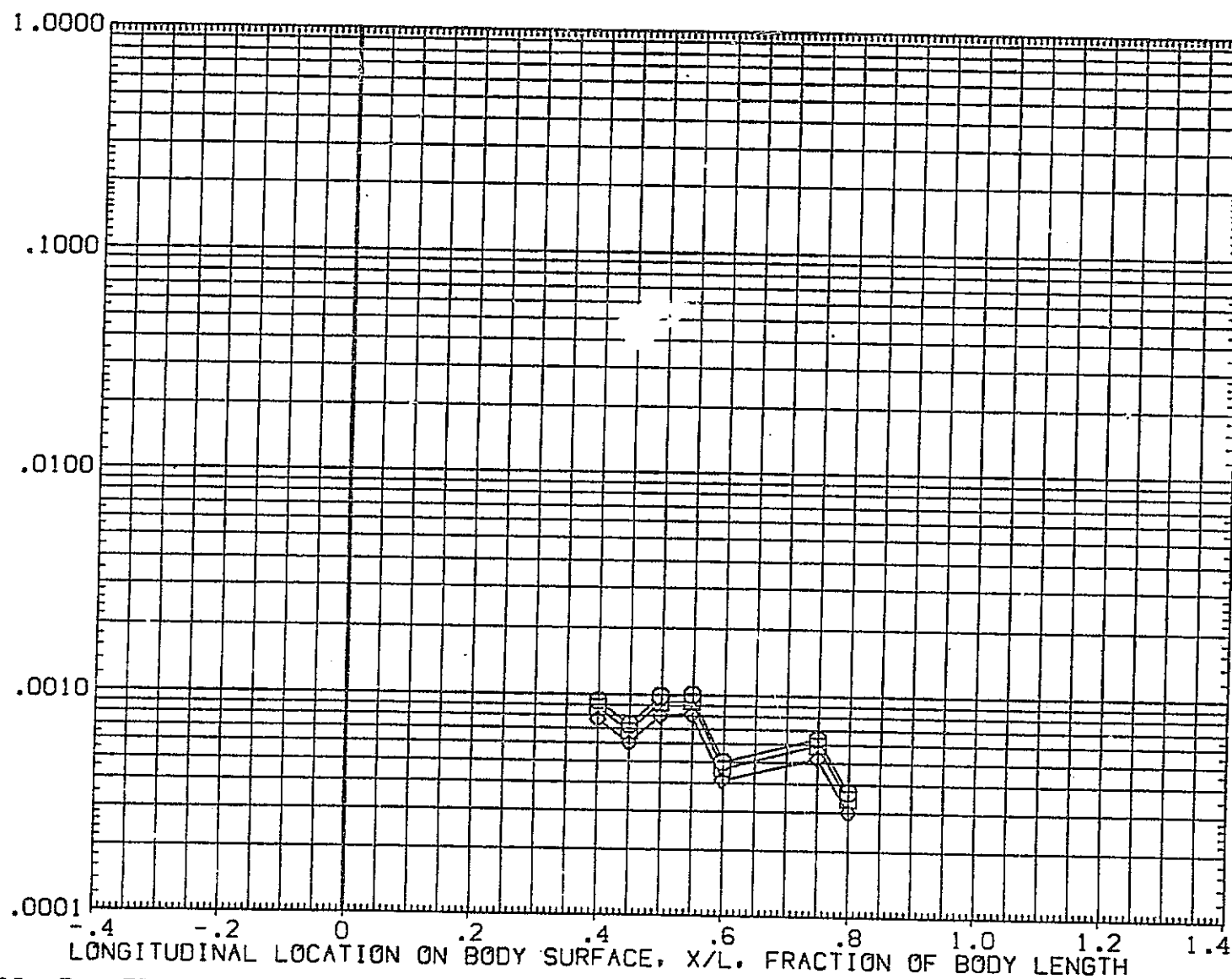
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

IH19 T8

EXTERNAL TANK

(SQET08)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	180.000	5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .300
BLTRIP	.030	MACH 19.800

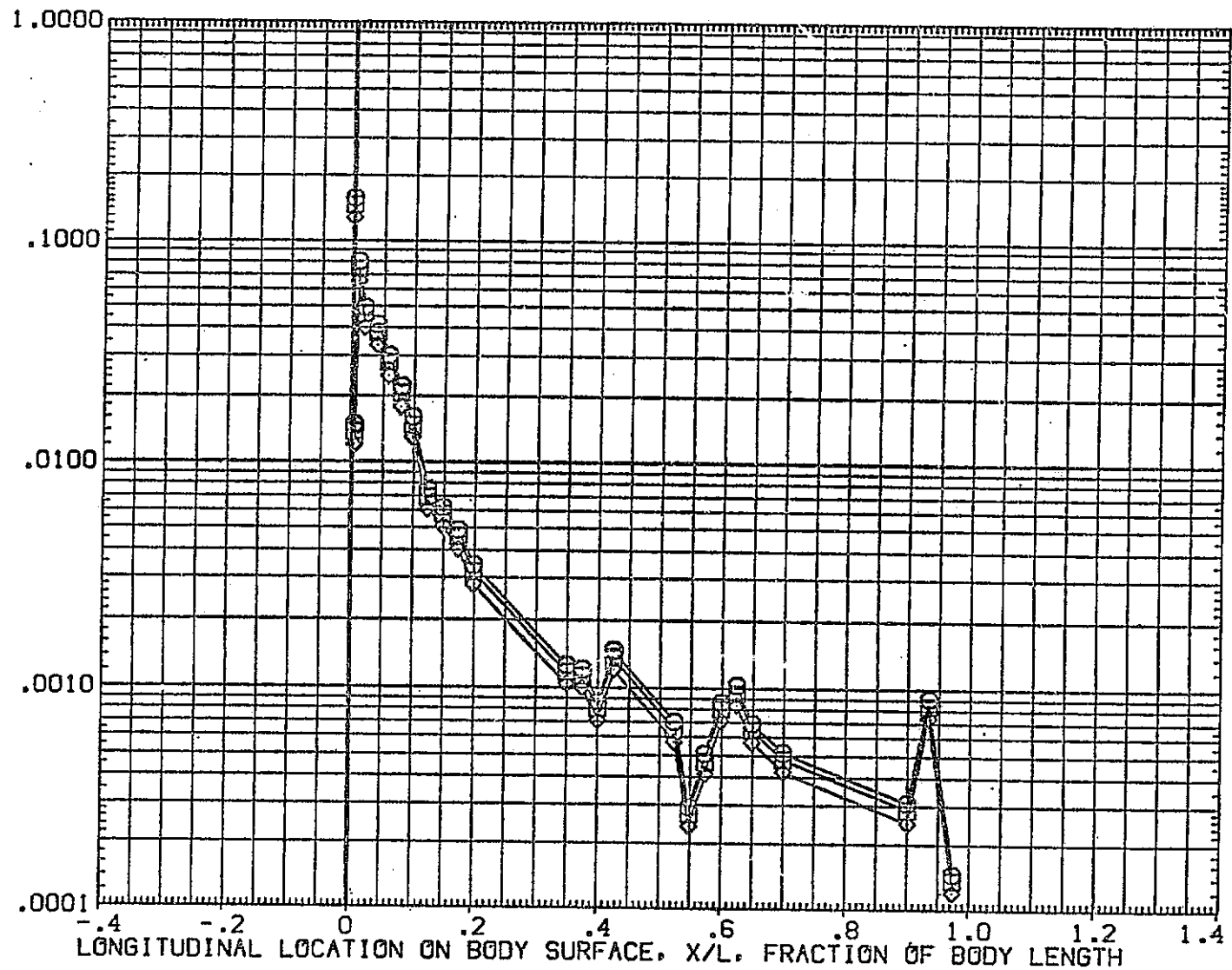
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

IH19 T8

EXTERNAL TANK

(SQET08)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	.000	10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	MACH 19.800

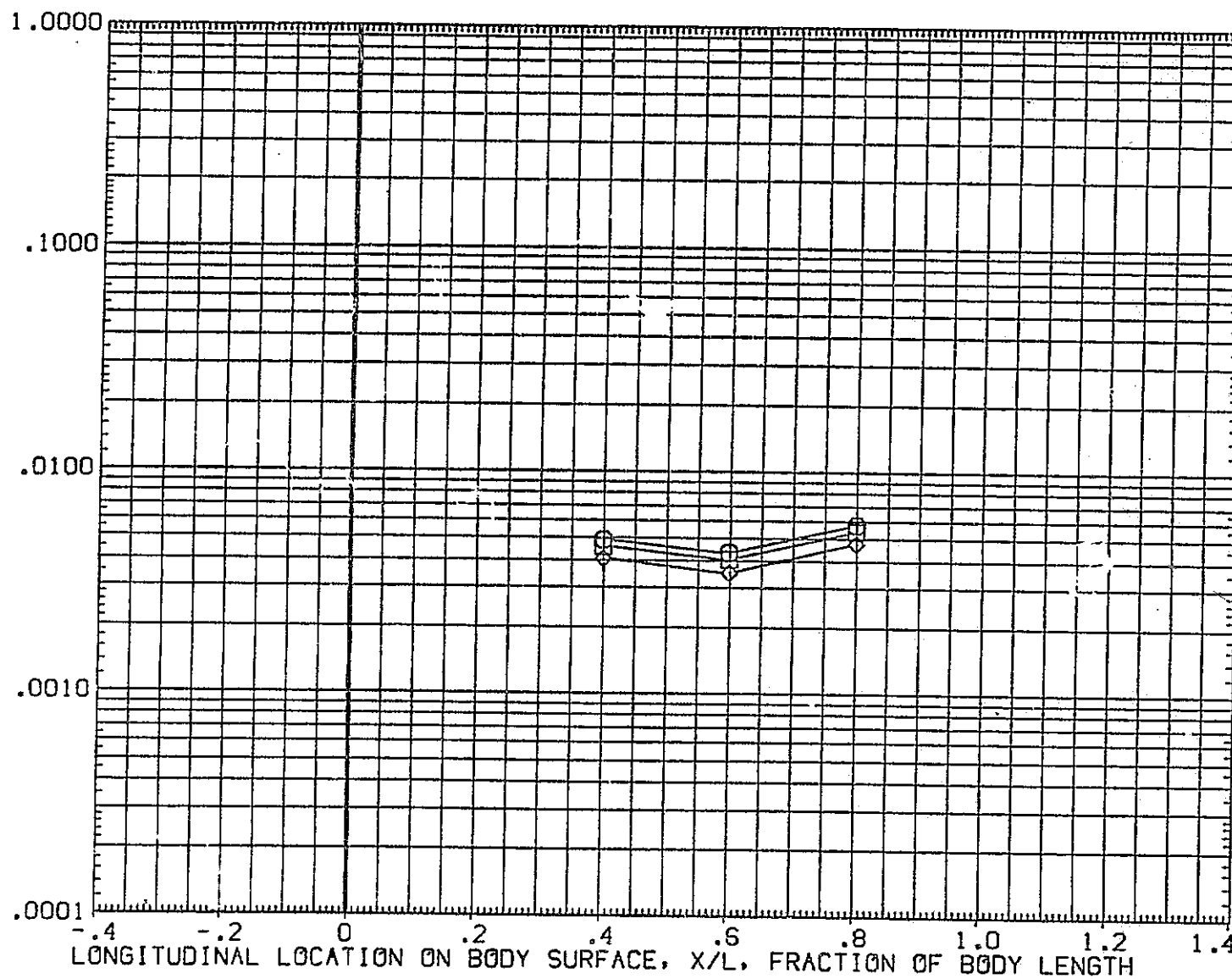
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.030	NACH	19.800

Figure 1 is a log-linear plot showing the variation of the ratio of the maximum velocity to the free stream velocity,  $U_{max}/U_{\infty}$ , versus the longitudinal location on the body surface,  $X/L$ , for a flat plate. The y-axis is logarithmic, ranging from 0.0001 to 1.0000. The x-axis is linear, ranging from -0.4 to 1.4. Data points are plotted for  $X/L = 0.4$  and  $X/L = 0.8$ , showing a slight decrease in the velocity ratio as  $X/L$  increases.

FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON



IH19 T8

EXTERNAL TANK

(SQET08)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	67.500	10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	MACH 19.800

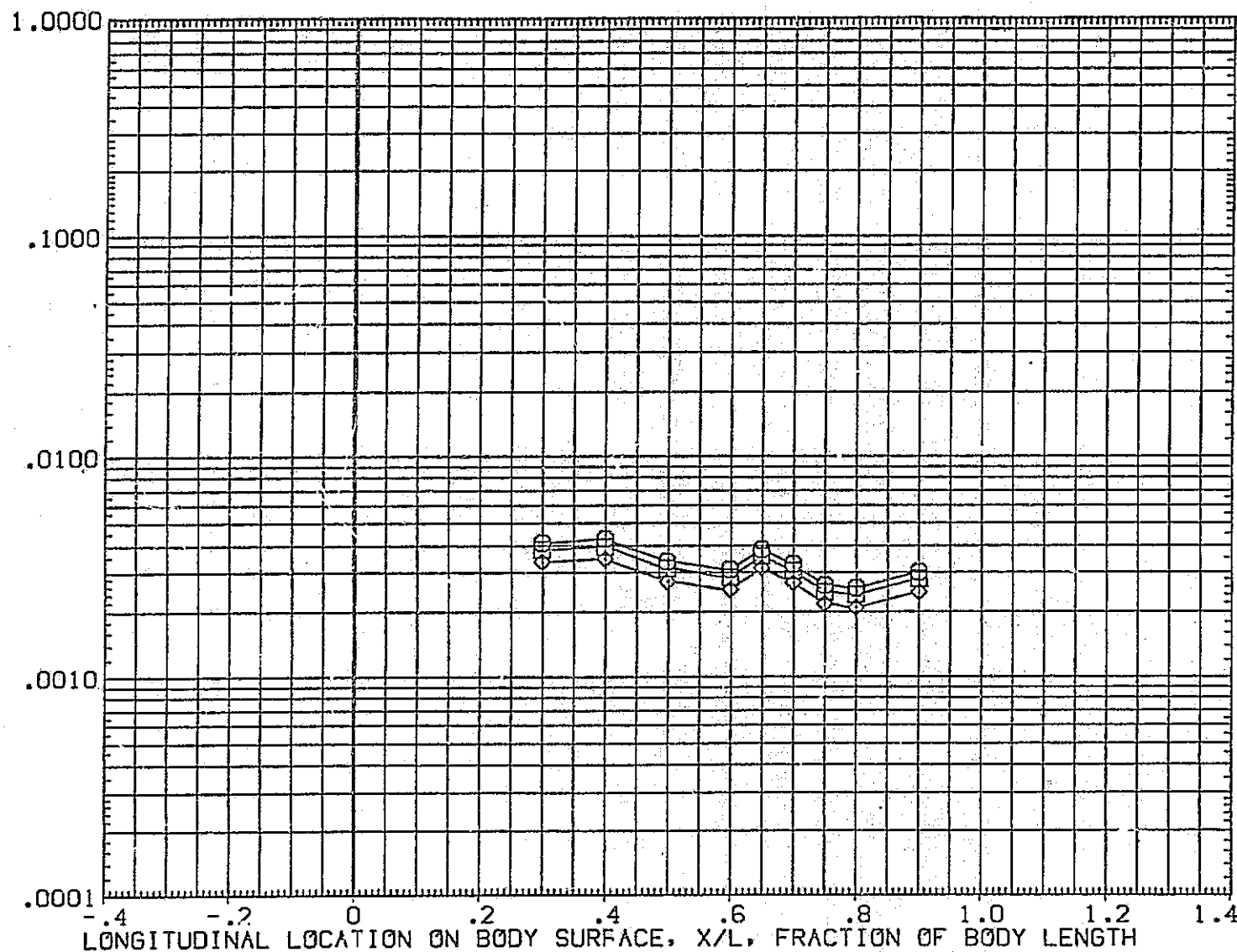
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

C3

IH19 T8

EXTERNAL TANK

(SQET08)

SYMBOL	HAW/HT	PHI	ALPHA
□	.850	90.000	10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L
BLTRIP	.050	HACH
		.500
		19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

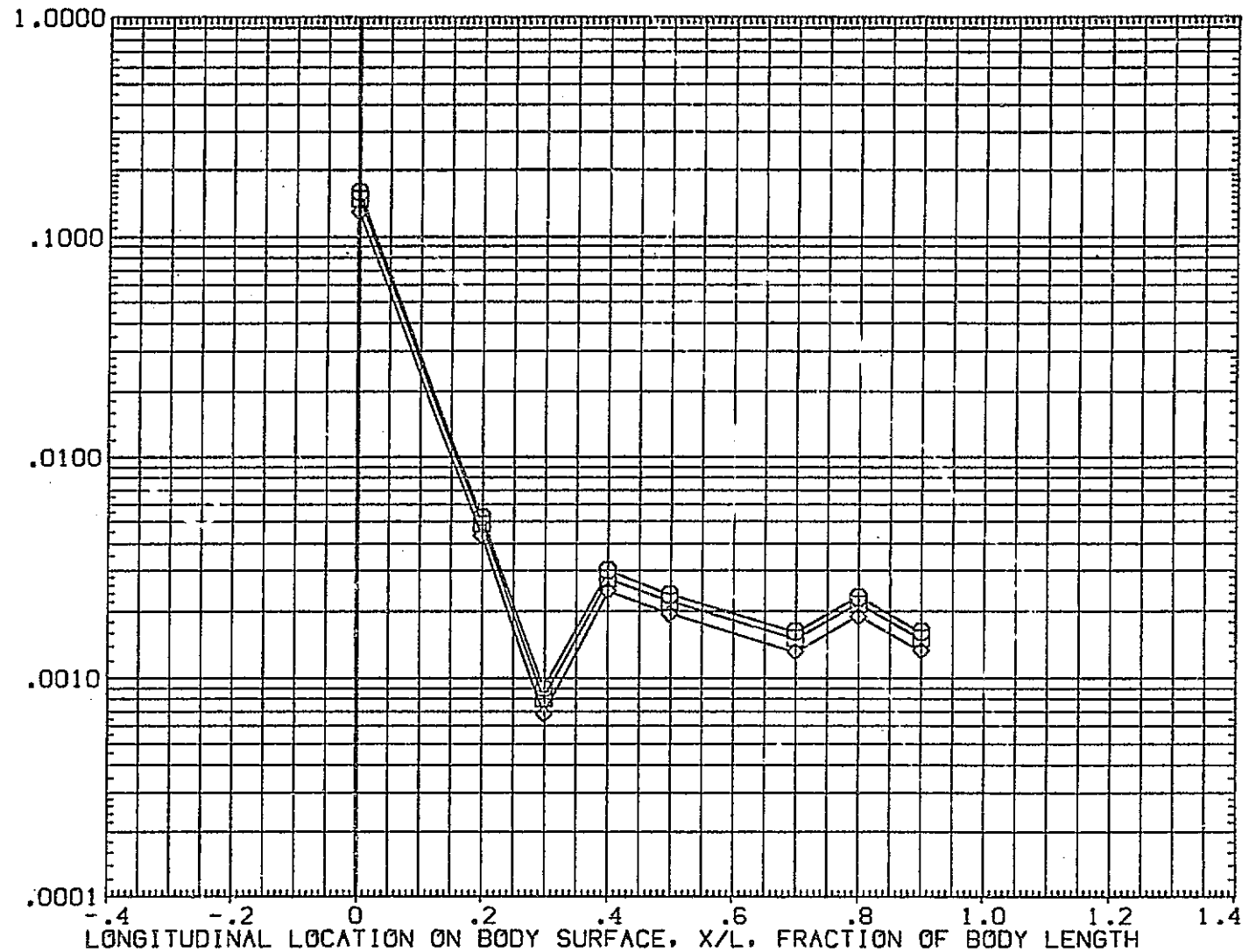


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

IH19 T8

EXTERNAL TANK

(SQET08)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	112.500	10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.030	MACH	19.800

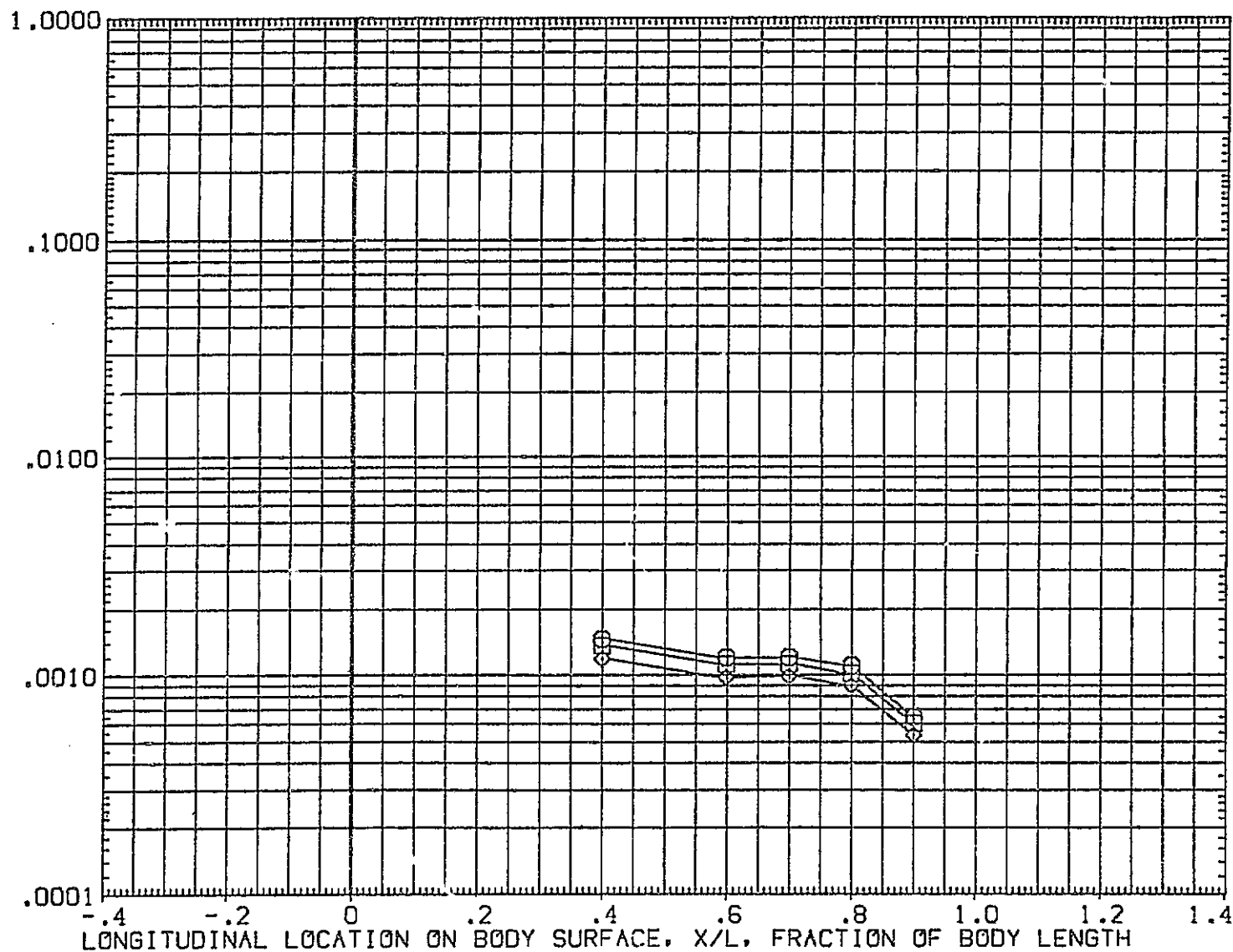
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

IH19 T8

EXTERNAL TANK

(SQET08)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	135.000	10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	HACH 19.800

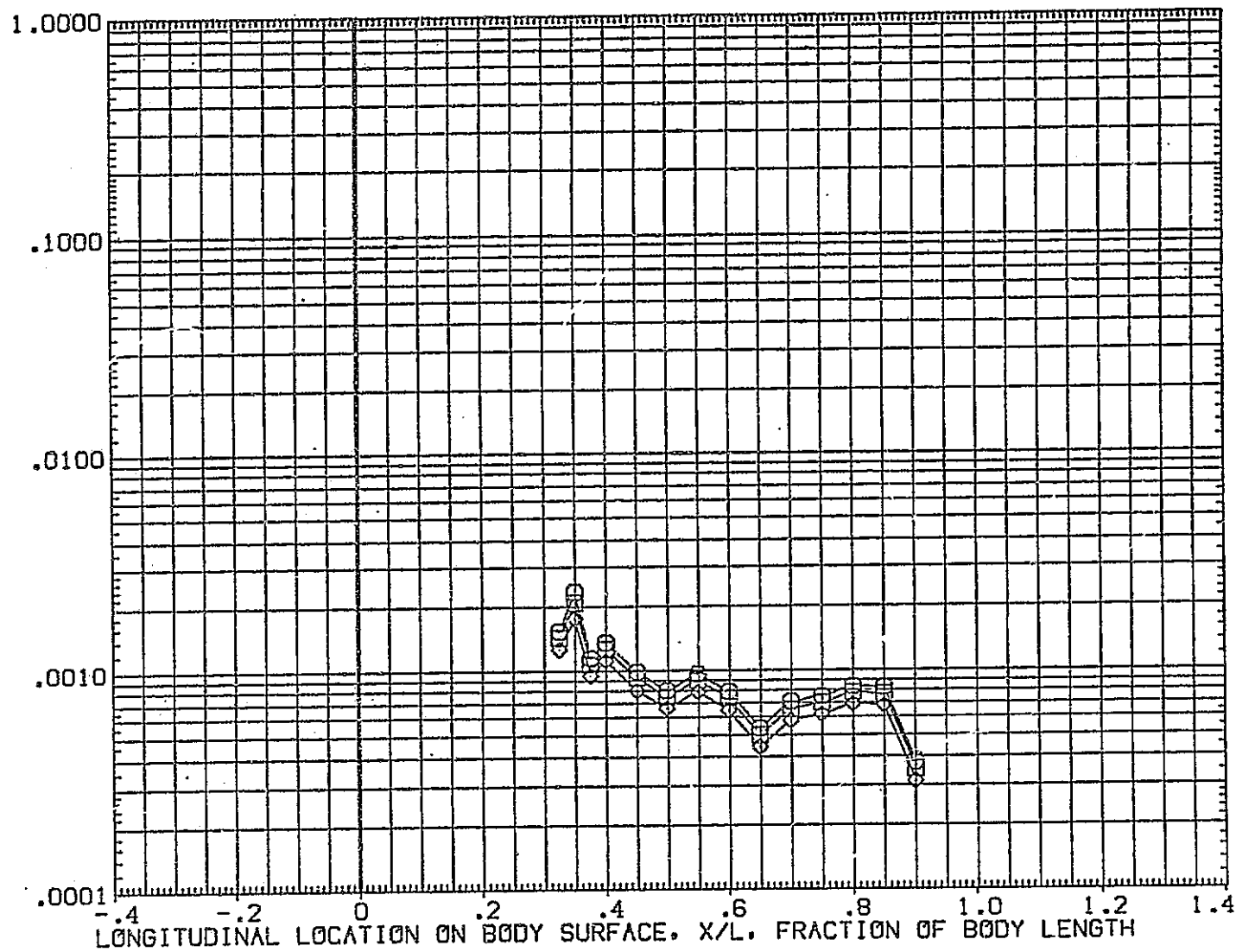
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $h/h_{REF}$ 

FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

IH19 T8

EXTERNAL TANK

(SQET08)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	157.500	10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	MACH 19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

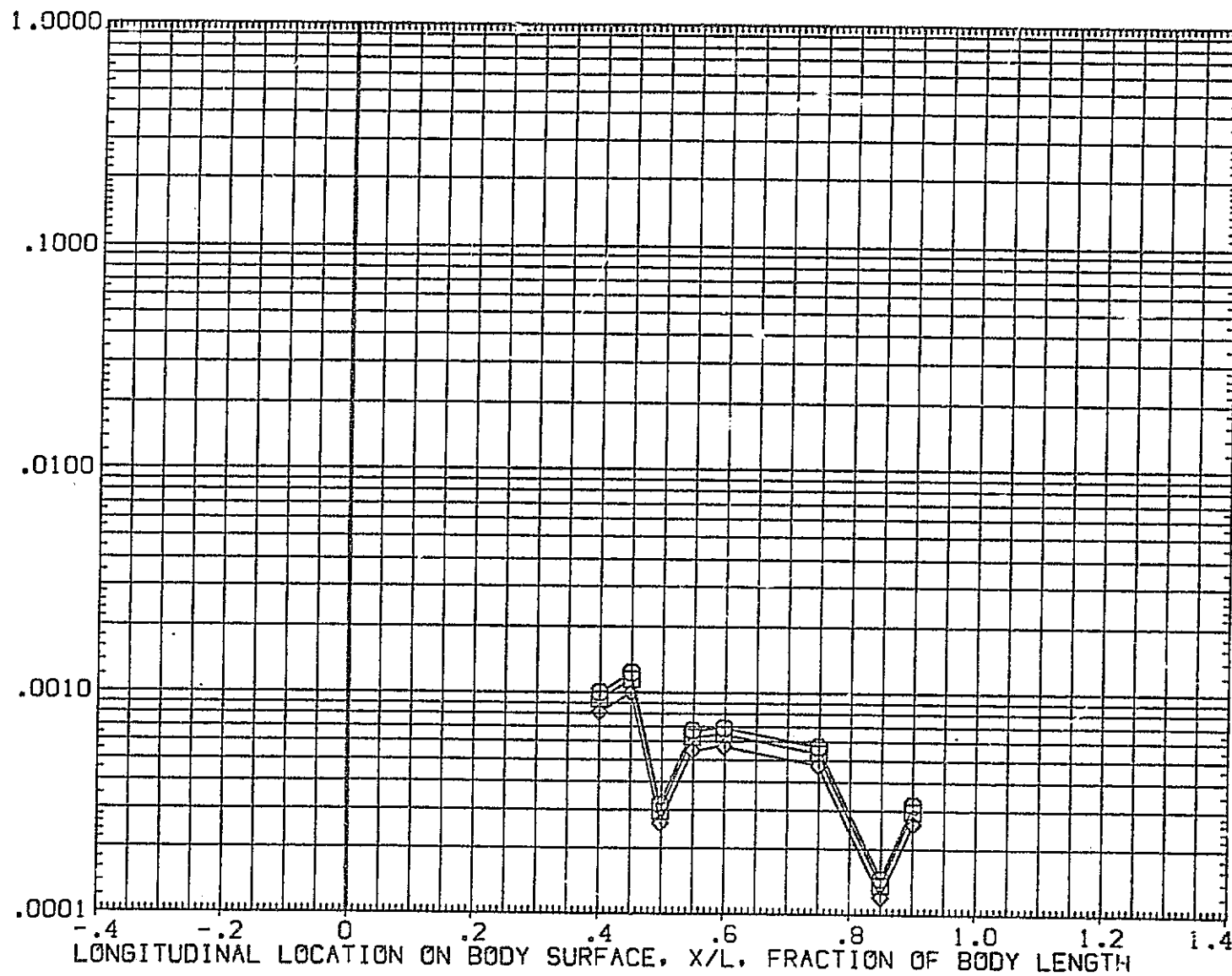


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	180.000	10.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	HACH 19.800

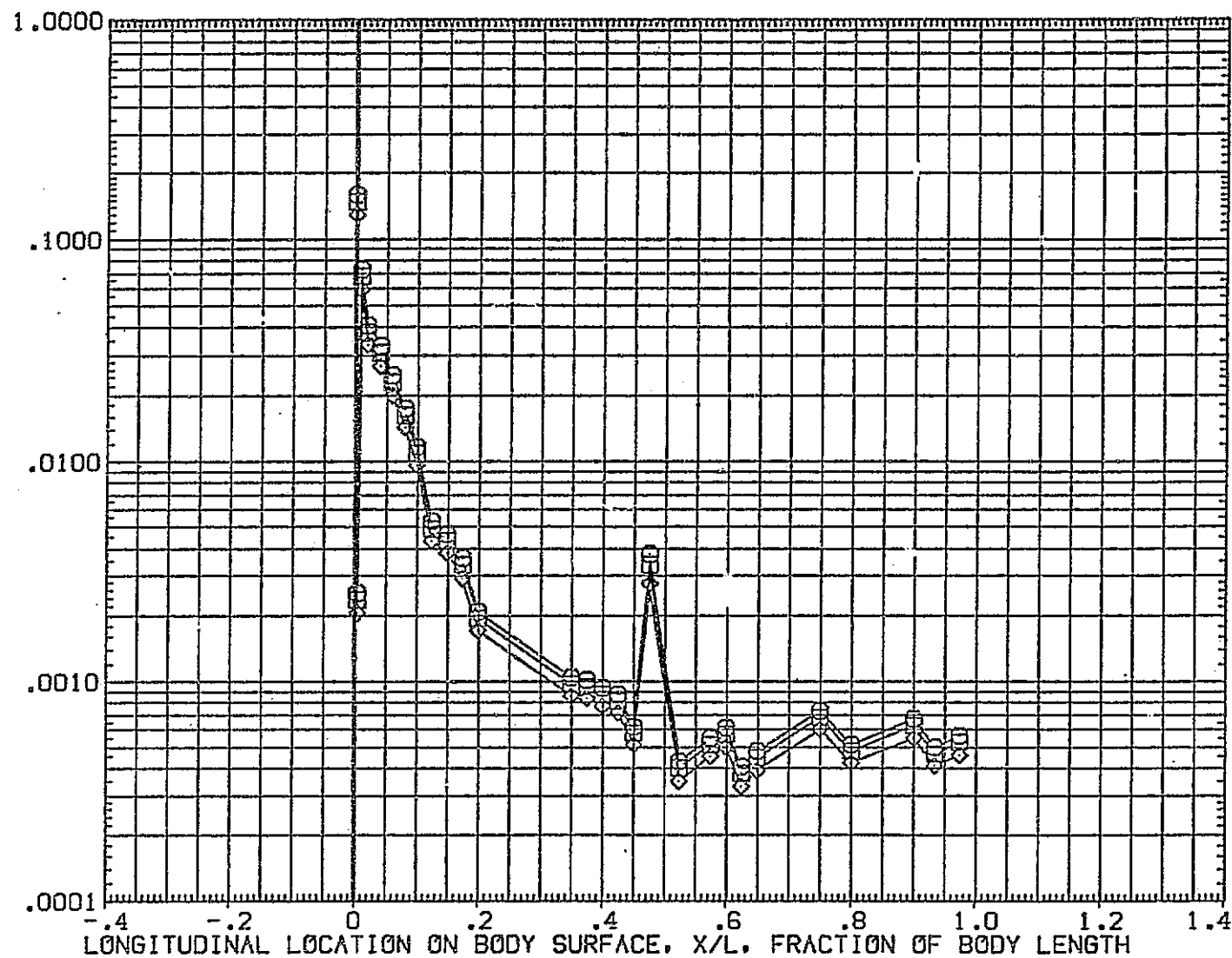
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON



IH19 B22C7F5M4V7W111 T8 EXTERNAL TANK

(SQETO1)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	.000	-10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	DELTAH .175
MACH	19.800	

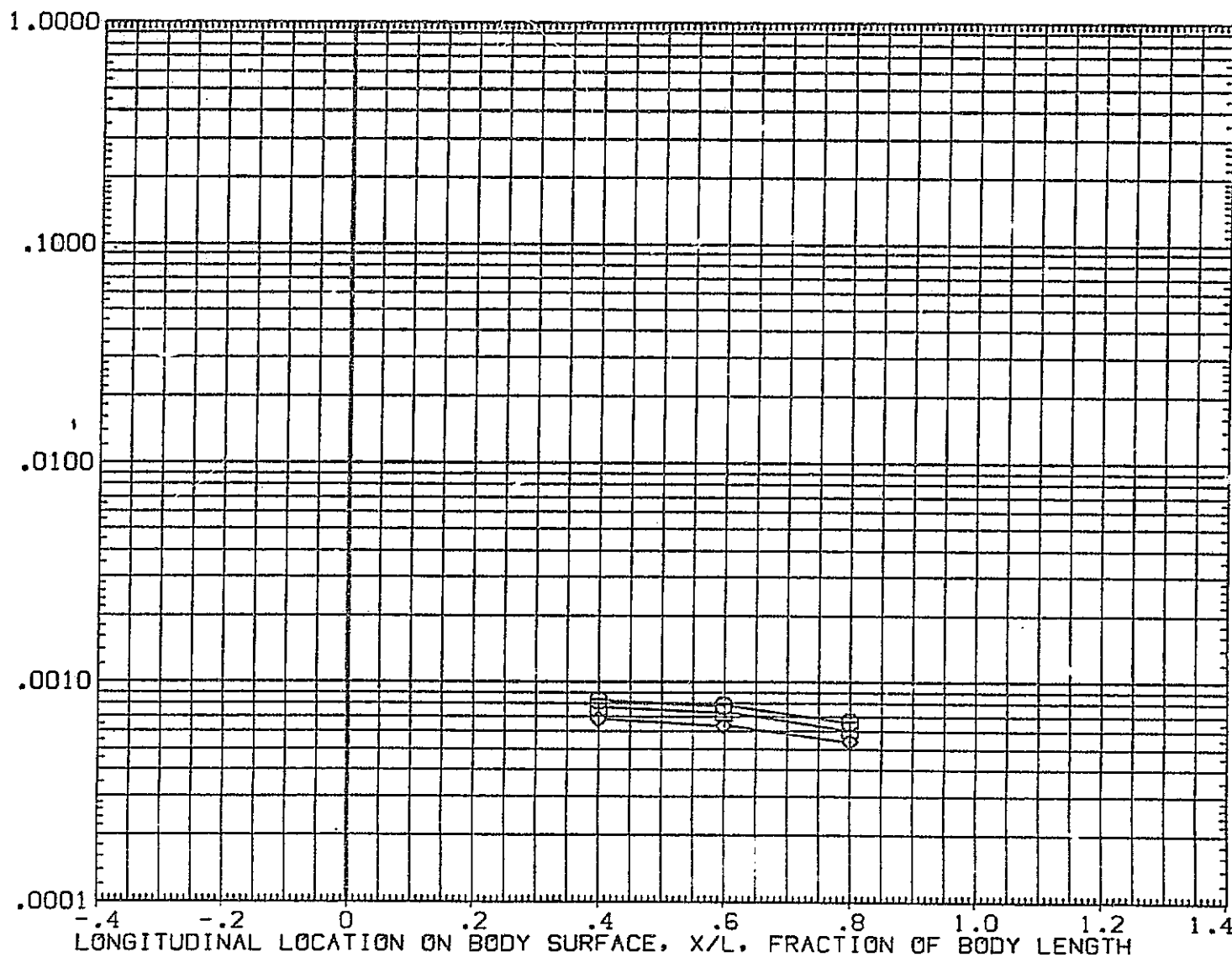
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

IH19 B22C7F5M4V7W111 T8 EXTERNAL TANK

(SQETO1)

SYMBOL

HAW/HT

PHI

ALPHA

BETA

PARAMETRIC VALUES

BLTRIP

.000

RN/L

.500

MACH

.030

DELTAH

.175

.850  
.900  
1.000

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

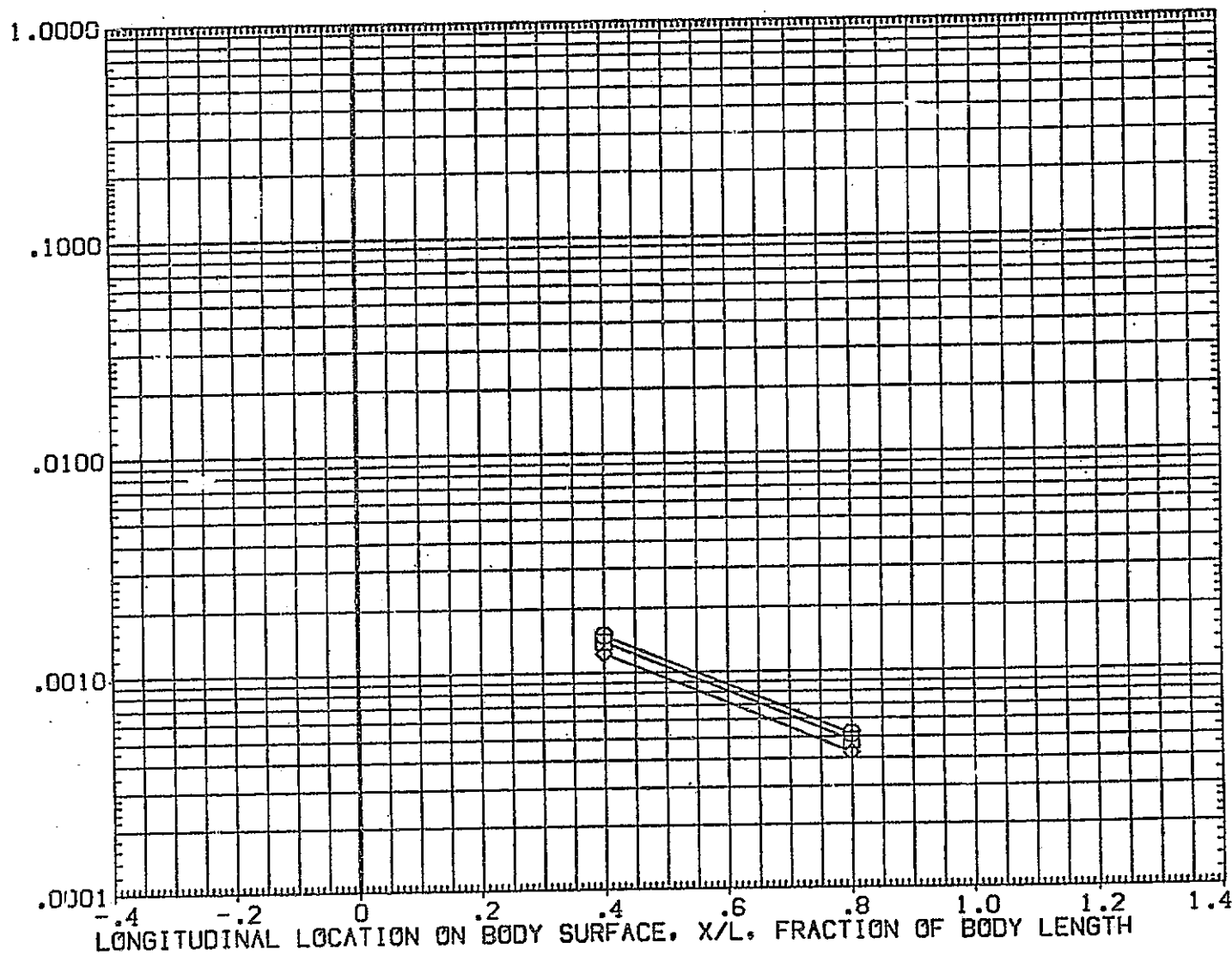


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON



SYMBOL	HAW/HT	PHI	ALPHA
○	.850	67.500	-10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	DELTAH .175
MACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

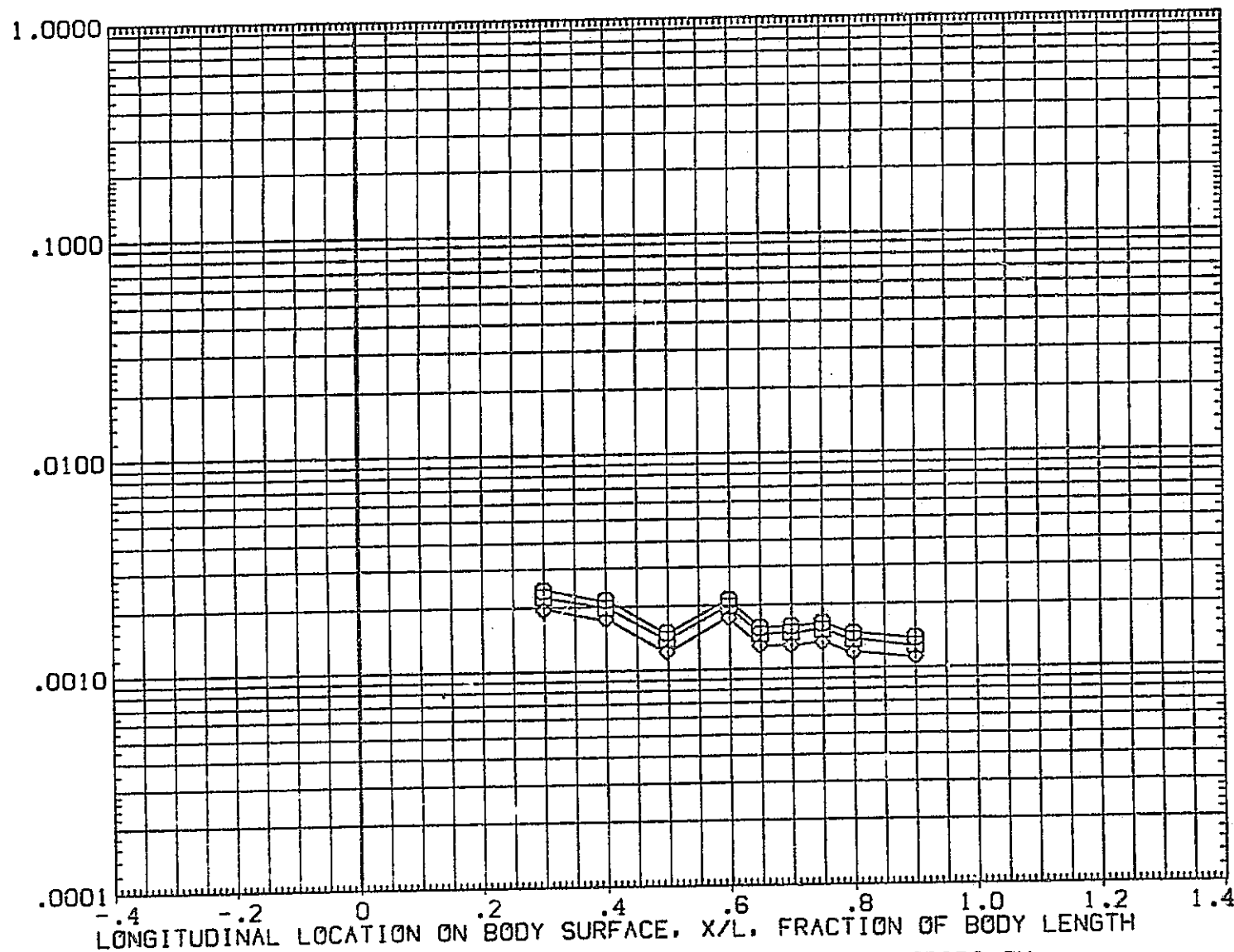


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

SYMBOL	HAW/HT	PHI	ALPHA
□	.850	90.000	-10.000
◇	.900		
	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	DELTAH .173
HACH	19.800	

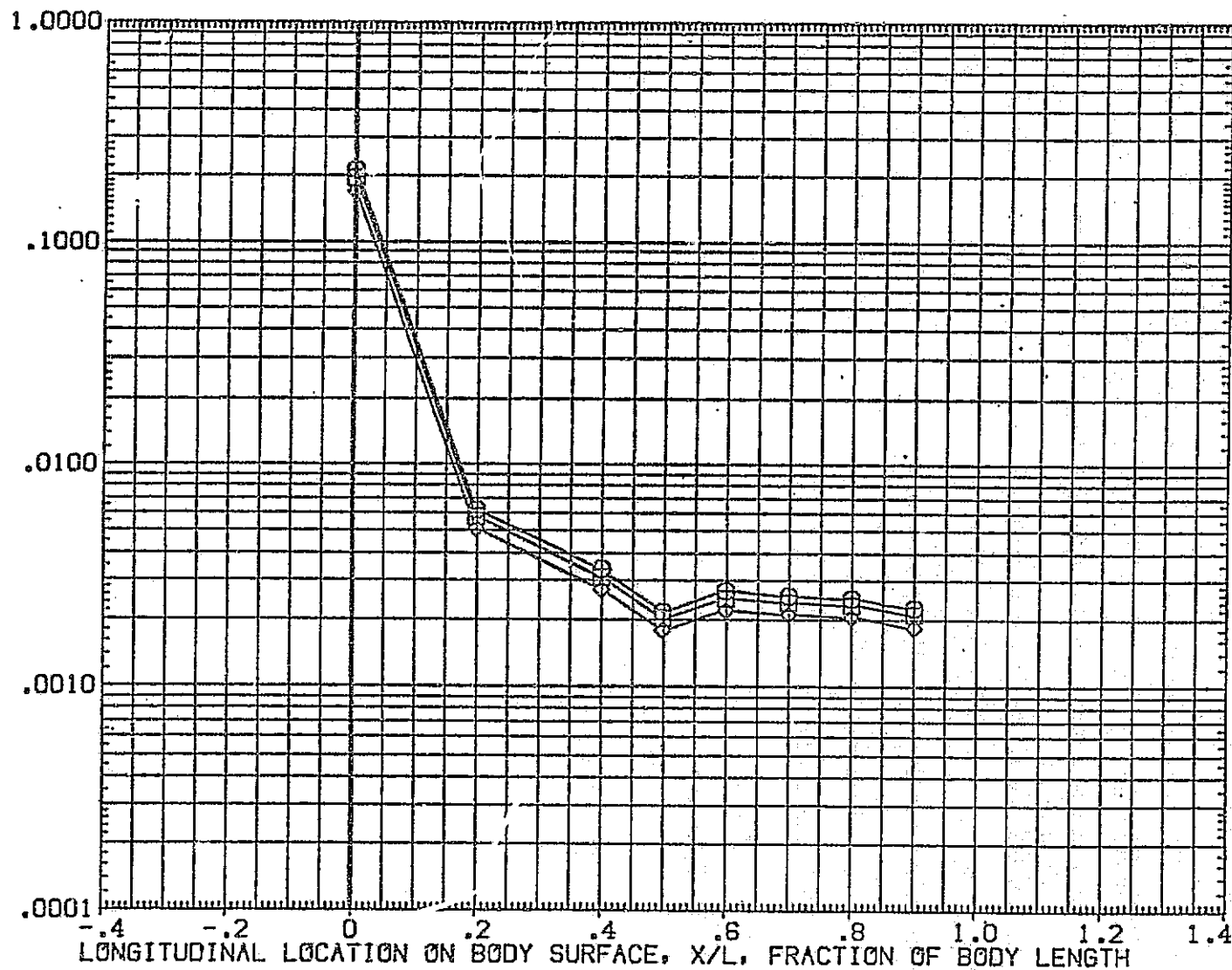
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

IH19 B22C7F5M4V7W111 T8 EXTERNAL TANK

(SQETO1)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	112.500	-10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	DELTAH .175
HACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

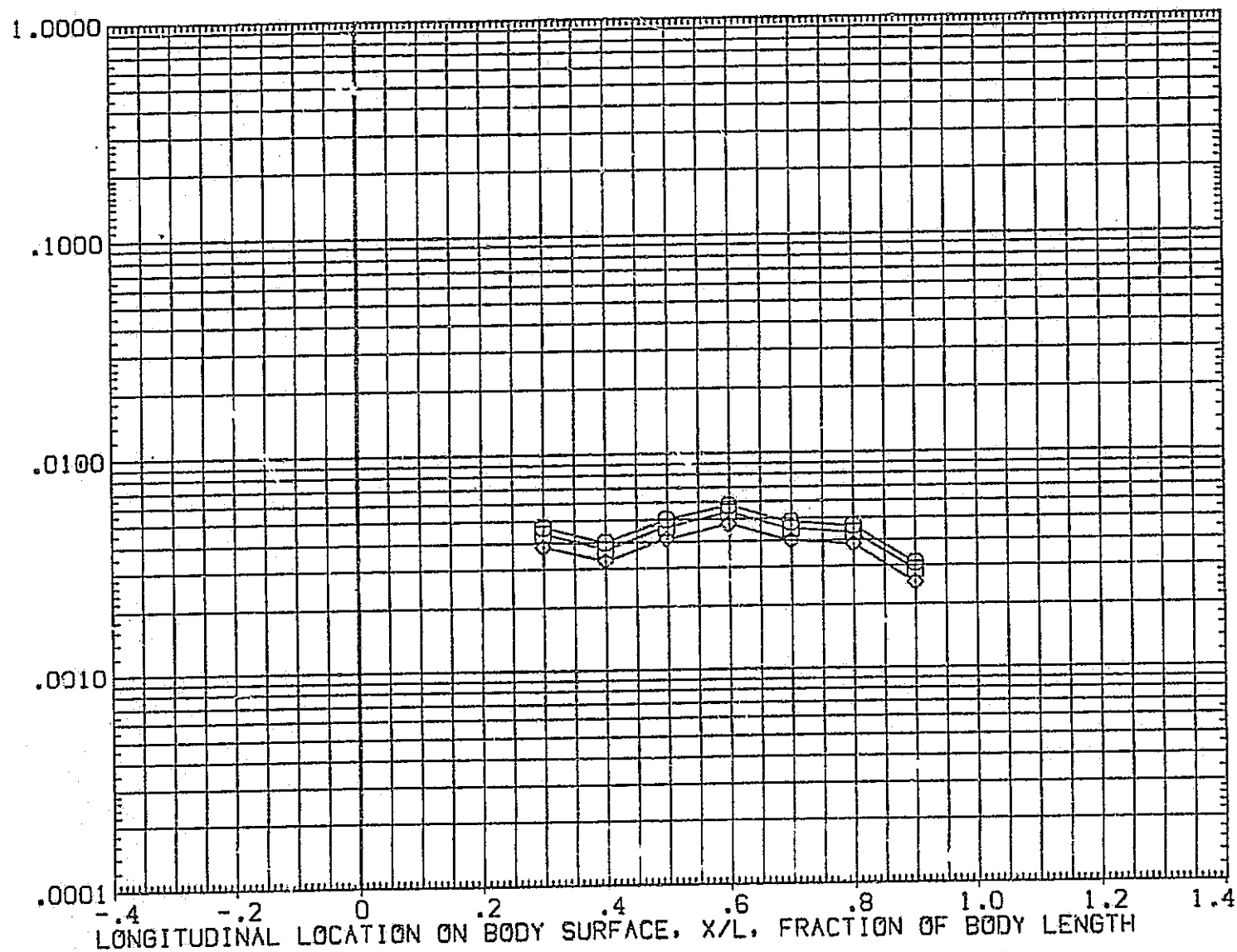


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

SYMBOL	HAY/HT	PHI	ALPHA
◇□□	.850	135.000	-10.000
	.900		
	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	DELTAH .175
HACH	19.800	

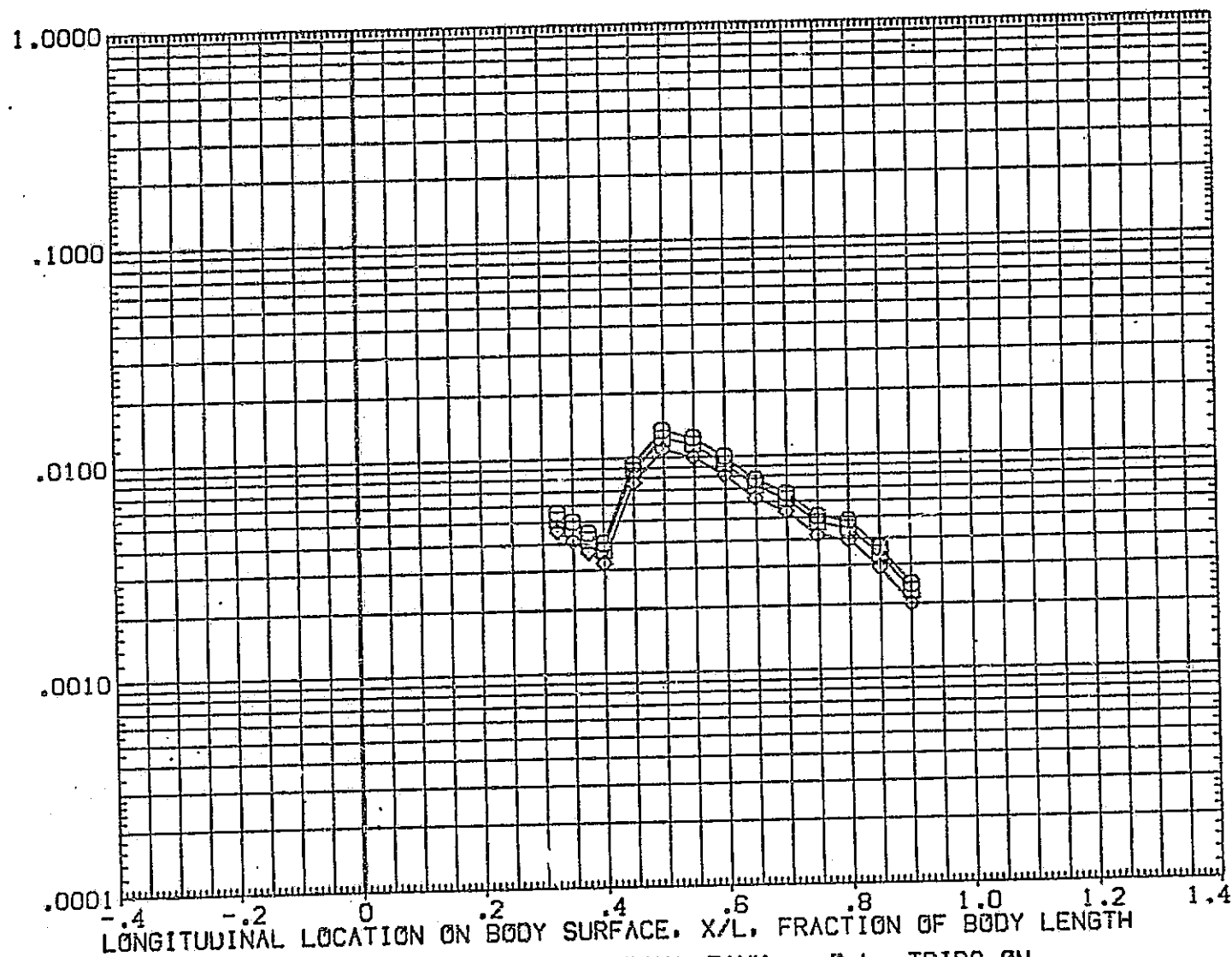
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

IH19 B22C7F5M4V7W111 T8 EXTERNAL TANK

(SQETO1)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	157.500	-10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	DELTAH .175
MACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

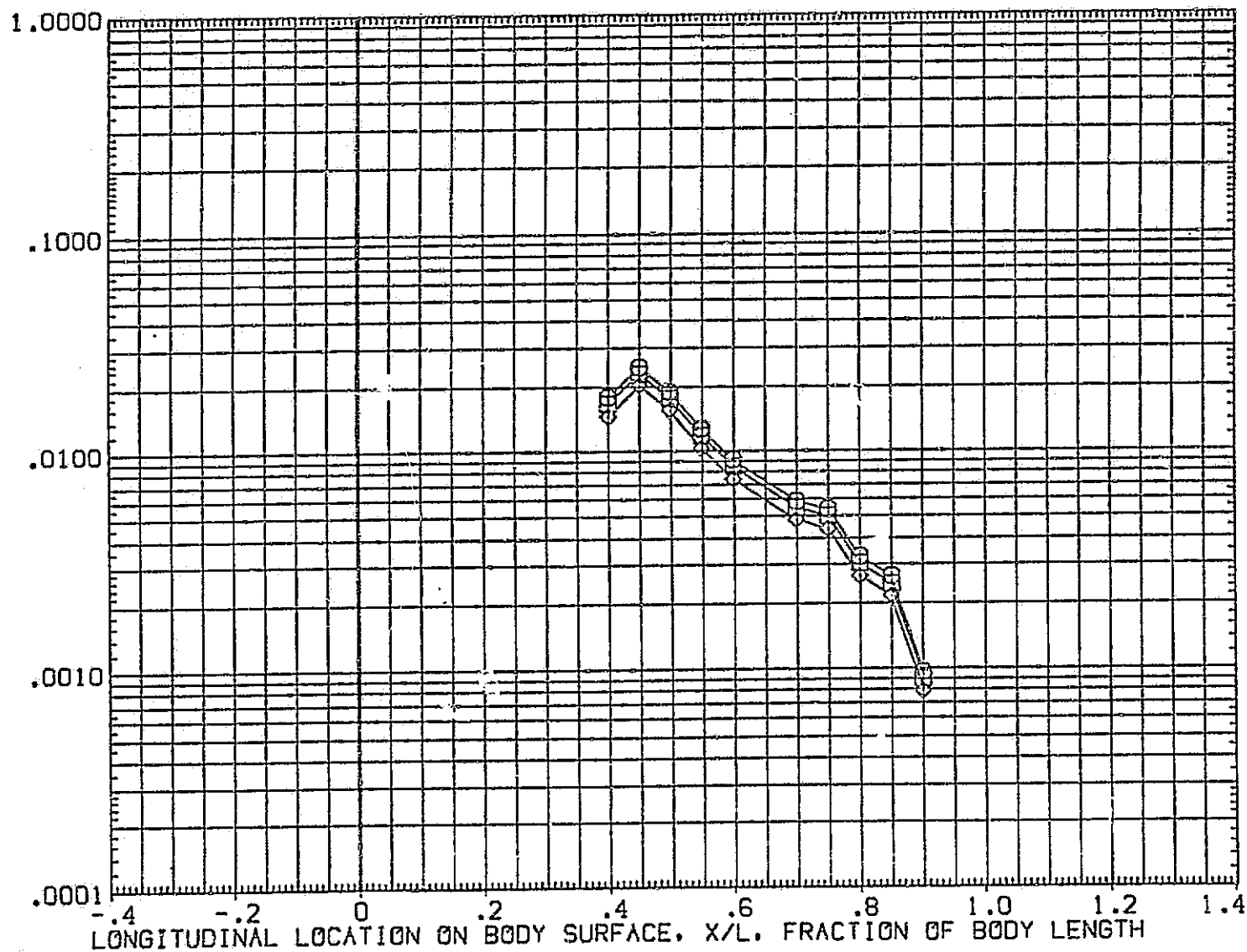


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	180.000	-10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.030	DELTAH	.175
HACH	19.800		

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

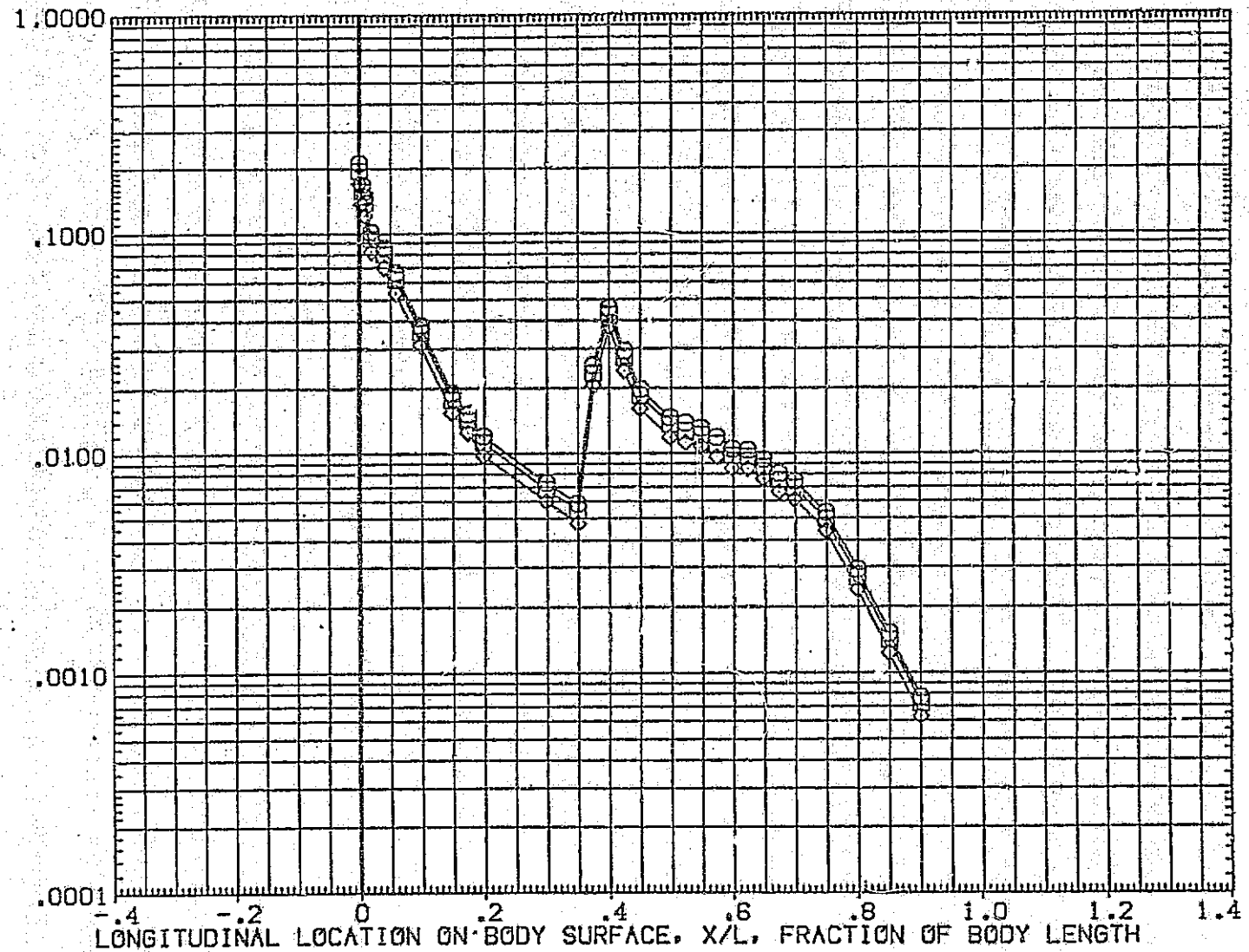


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

IH19 B22C7F5M4V7W111 T8 EXTERNAL TANK

(SQETO1)

SYMBOL	HAW/HT	PRJ	ALPHA
◇	.850	.000	-5.000
□	.900		
	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	DELTAH .175
MACH	19.800	

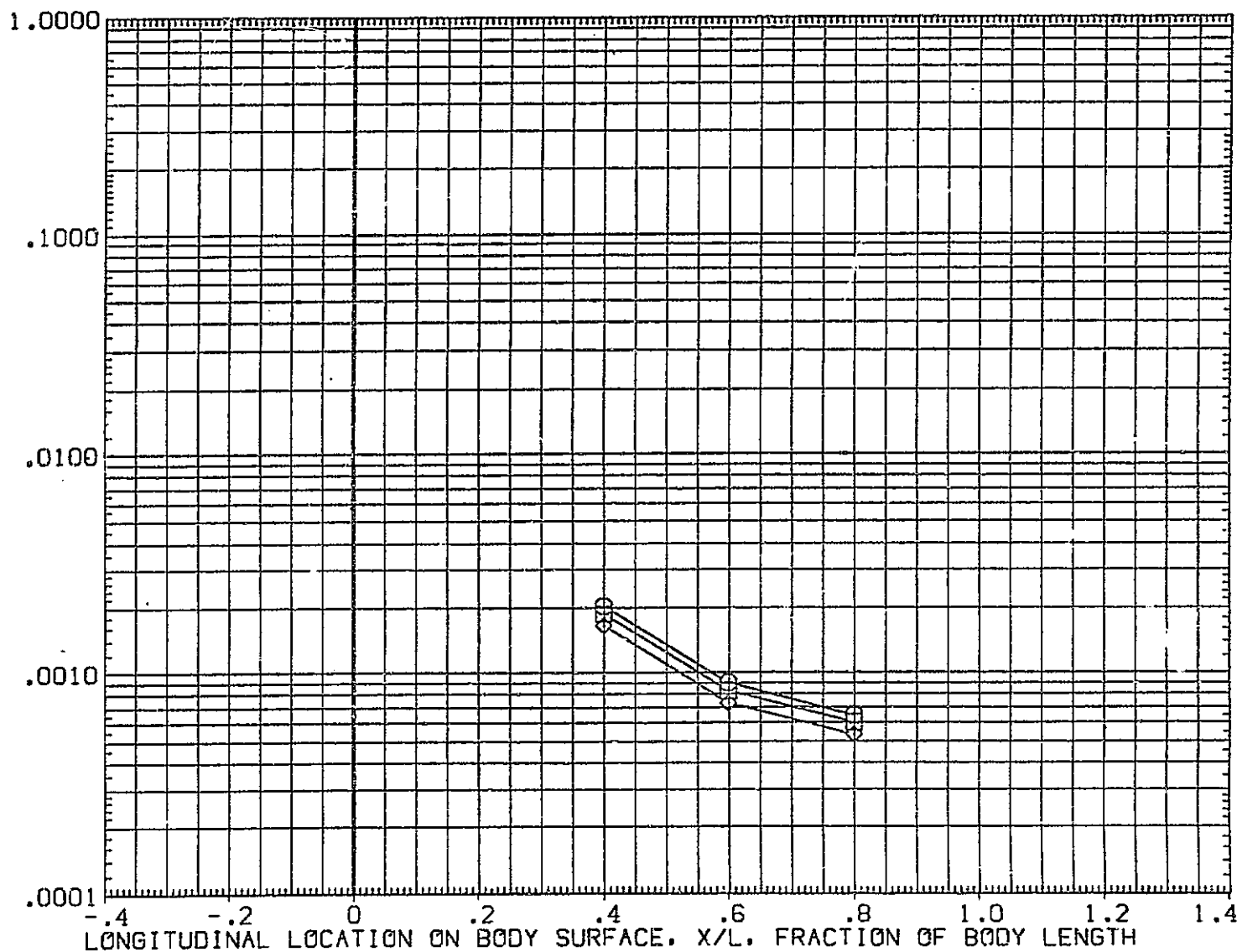
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	45.000	-5.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	DELTAH .175
MACH	19.800	

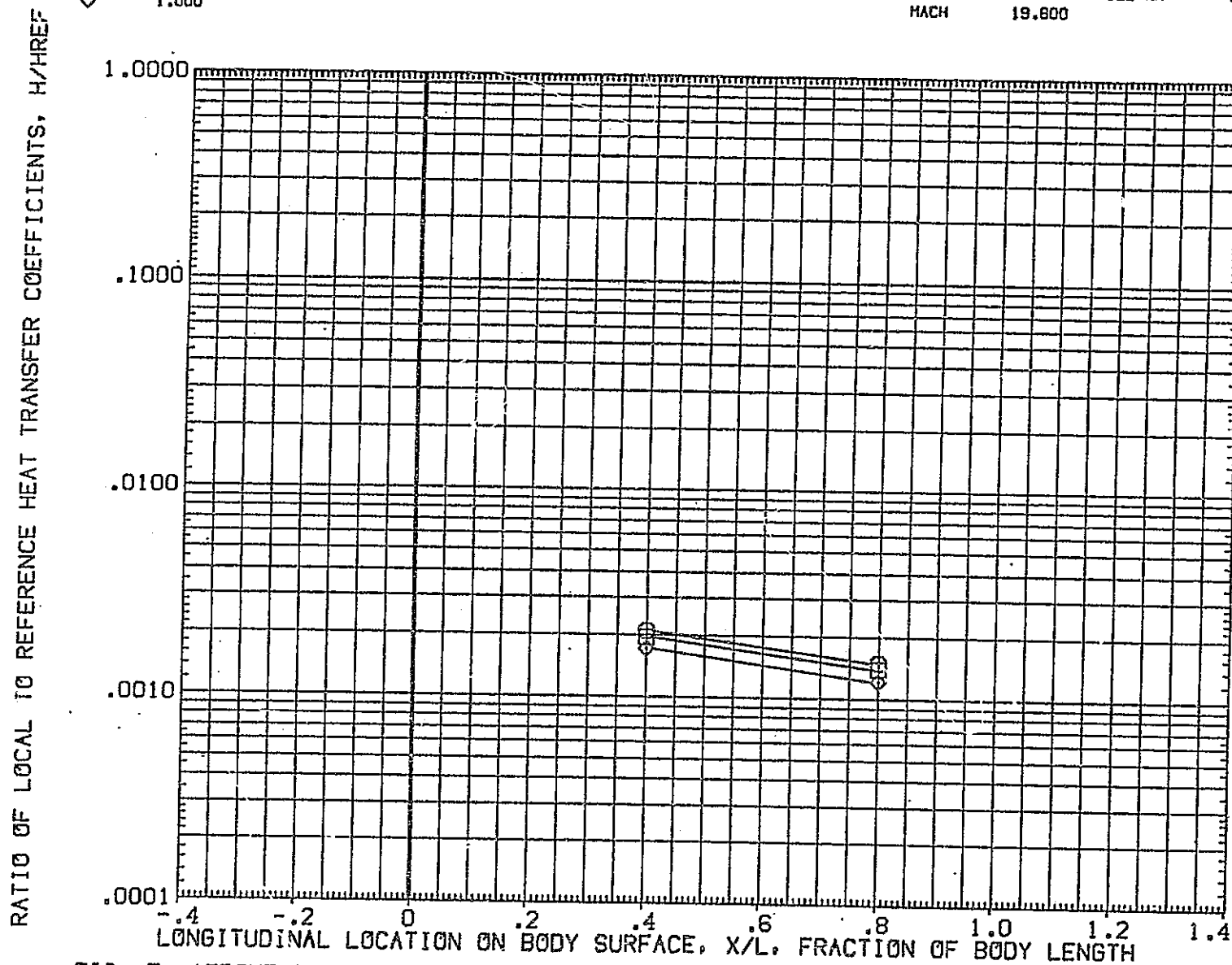


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON



IH19 B22C7F5M4V7W111 T8 EXTERNAL TANK

(SQET01)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	67.500	-5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	DELTAH .175
MACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

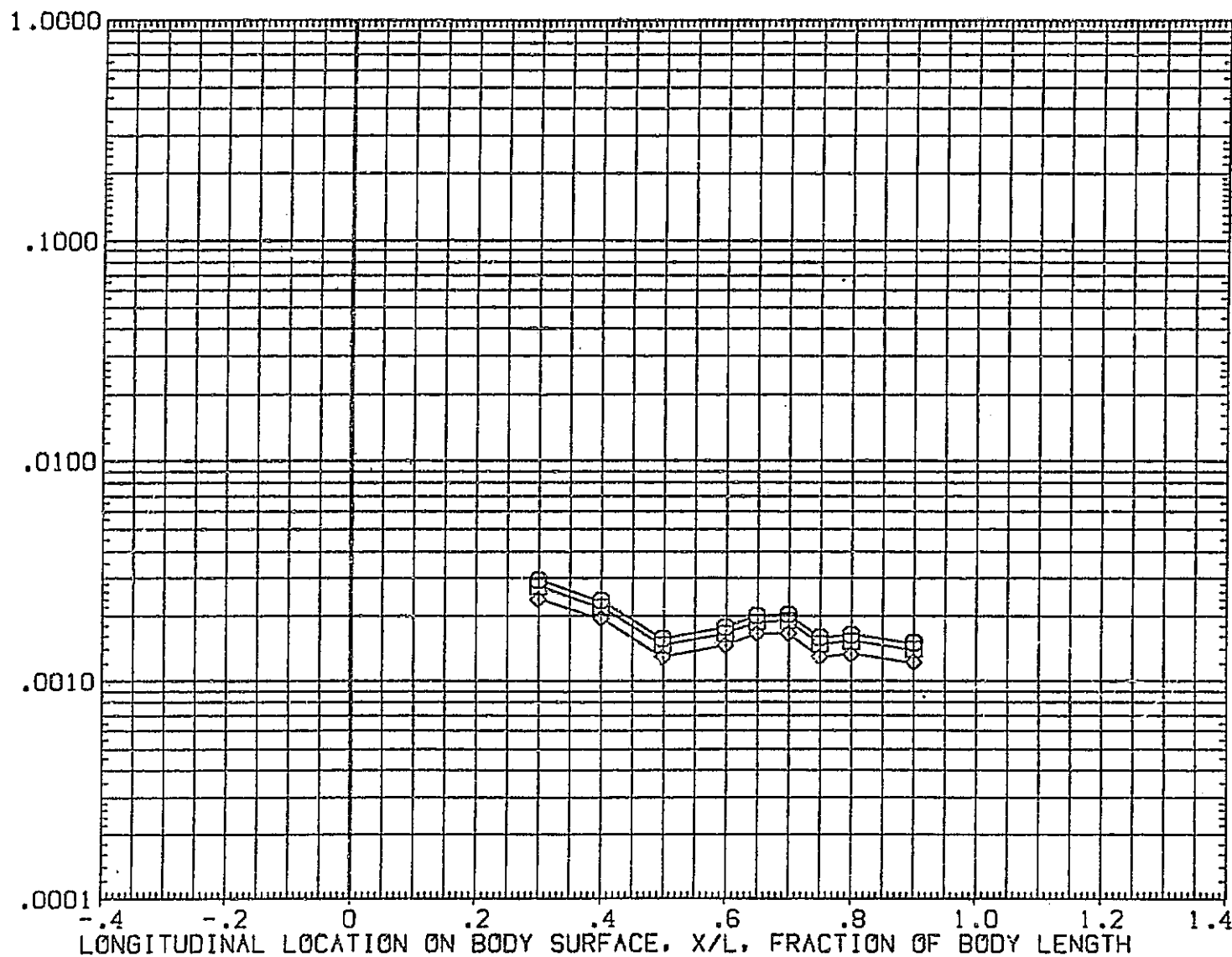


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	90.000	-5.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	DELTAH .175
MACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

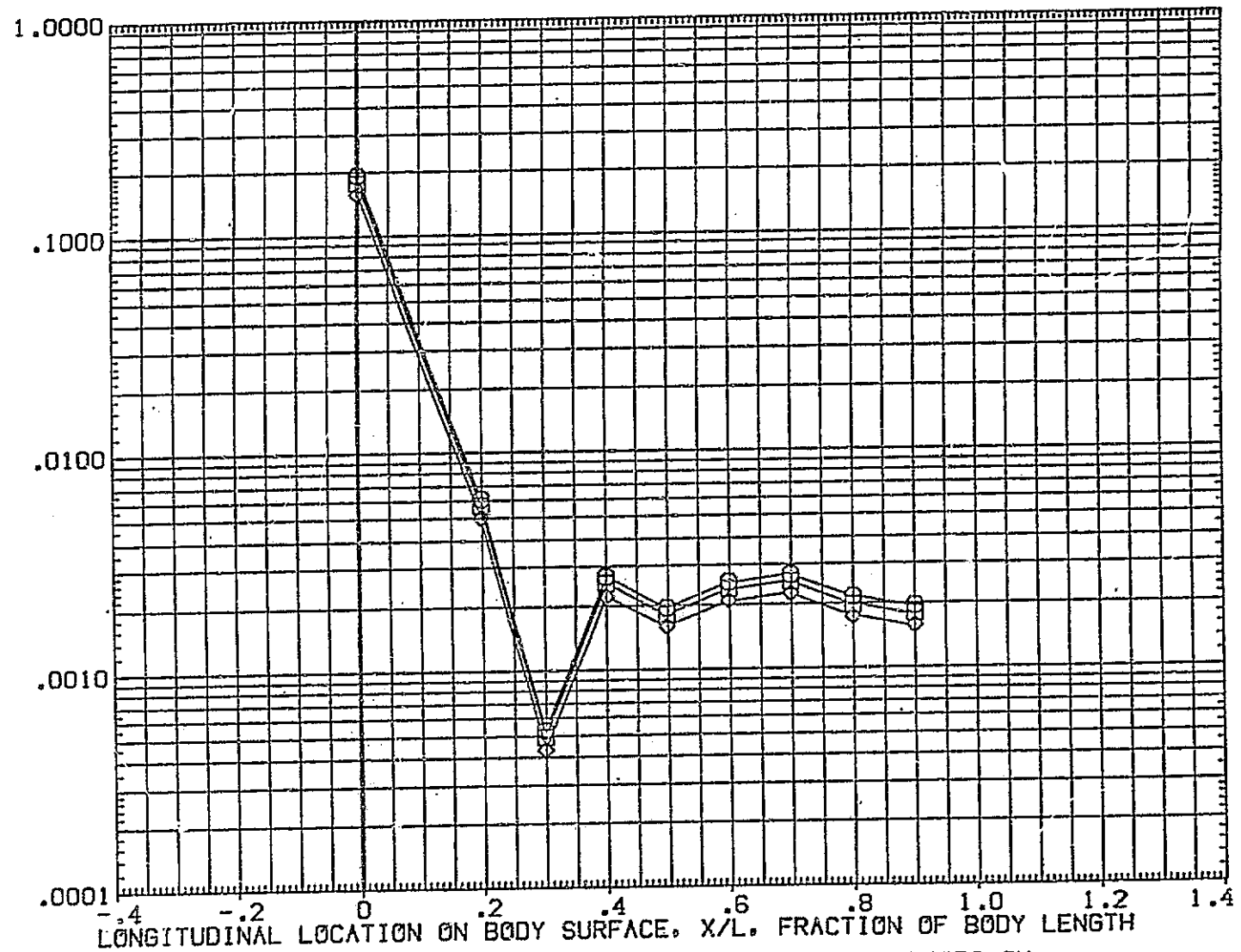


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

JH19 B22C7F5M4V7W111 T8 EXTERNAL TANK

(SQETO1)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	112.500	-5.000
□	.900		
○	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.030	DELTAH	.175
MACH	19.800		

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

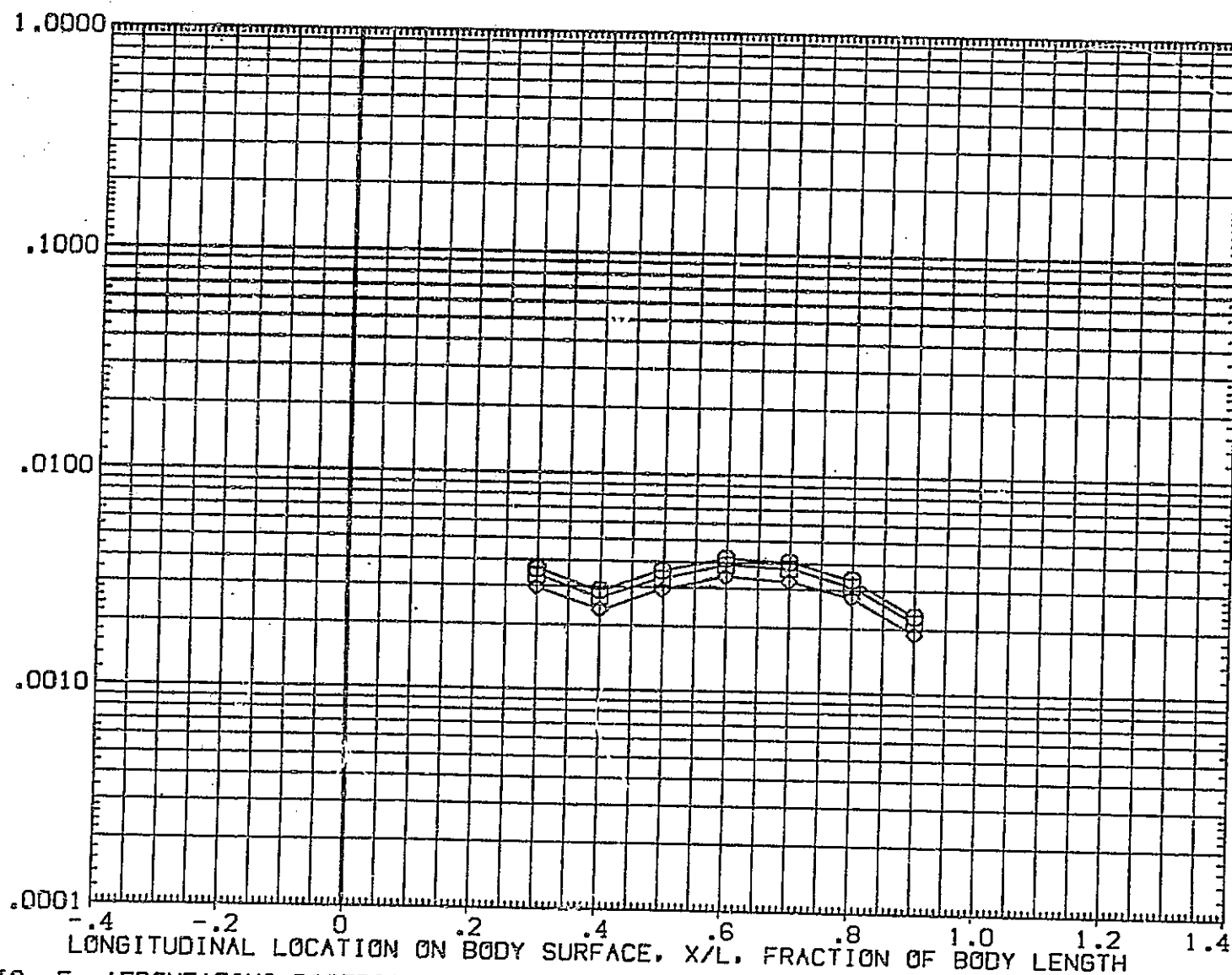


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

IH19 B22C7F5M4V7W111 T8 EXTERNAL TANK

(SQETO1)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.950	135.000	-5.000
□	.900		
○	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.030	DELTAH	.175
HACH	19.800		

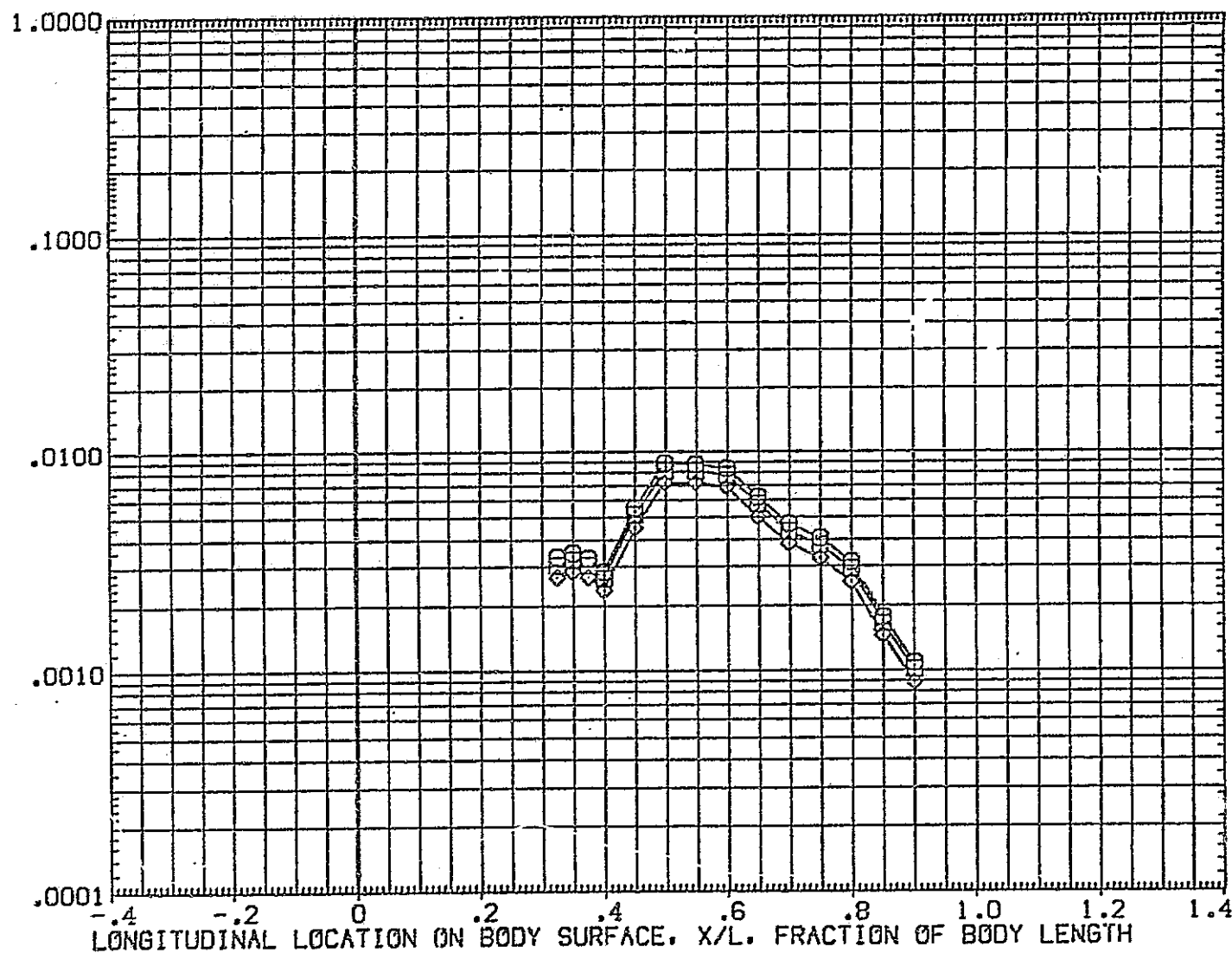
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

IH19 B22C7F5M4V7W111 T8 EXTERNAL TANK

(SQETO1)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	157.500	-5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	DELTAH .175
MACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$

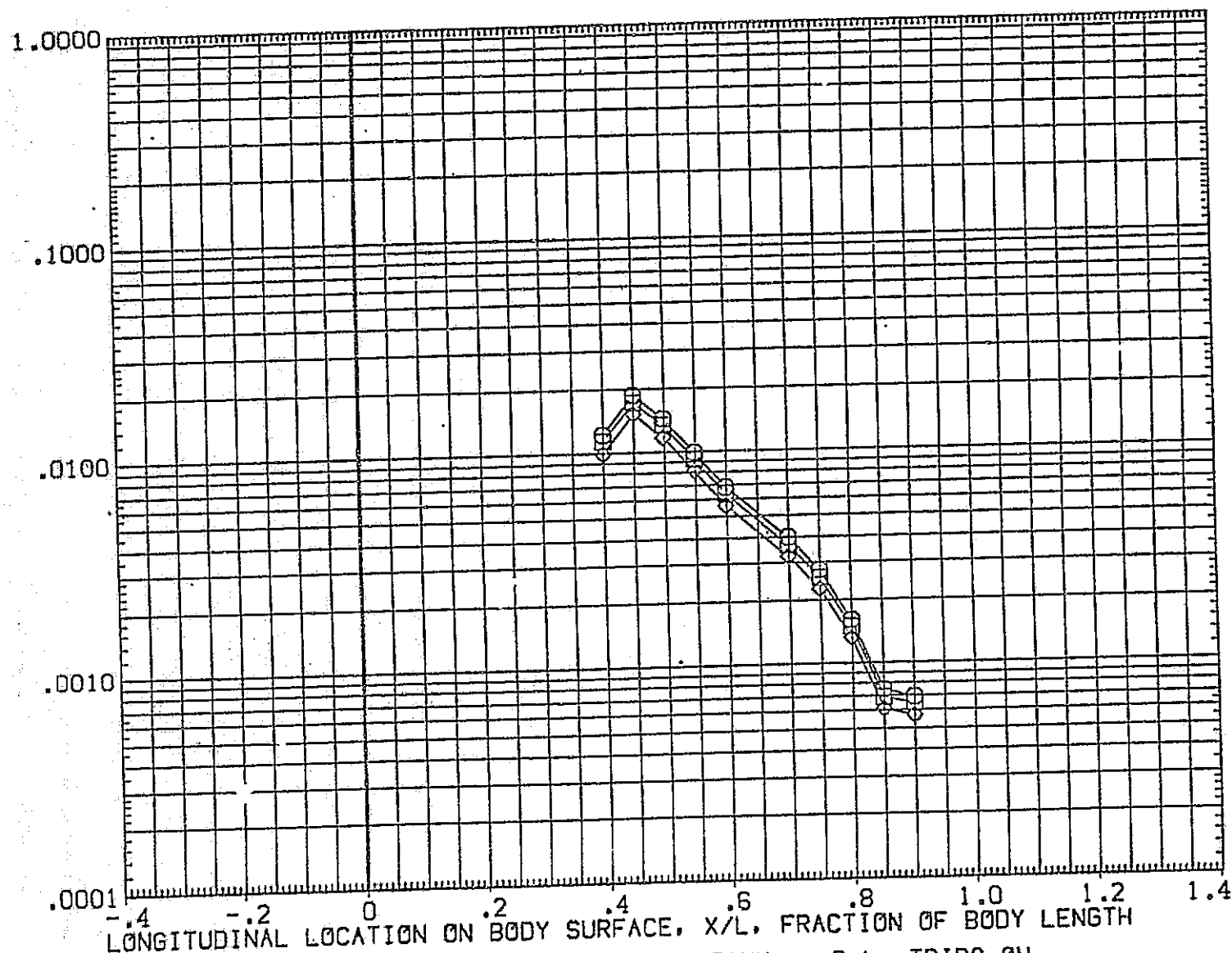


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	180.000	-5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	DELTAH .175
MACH	19.800	

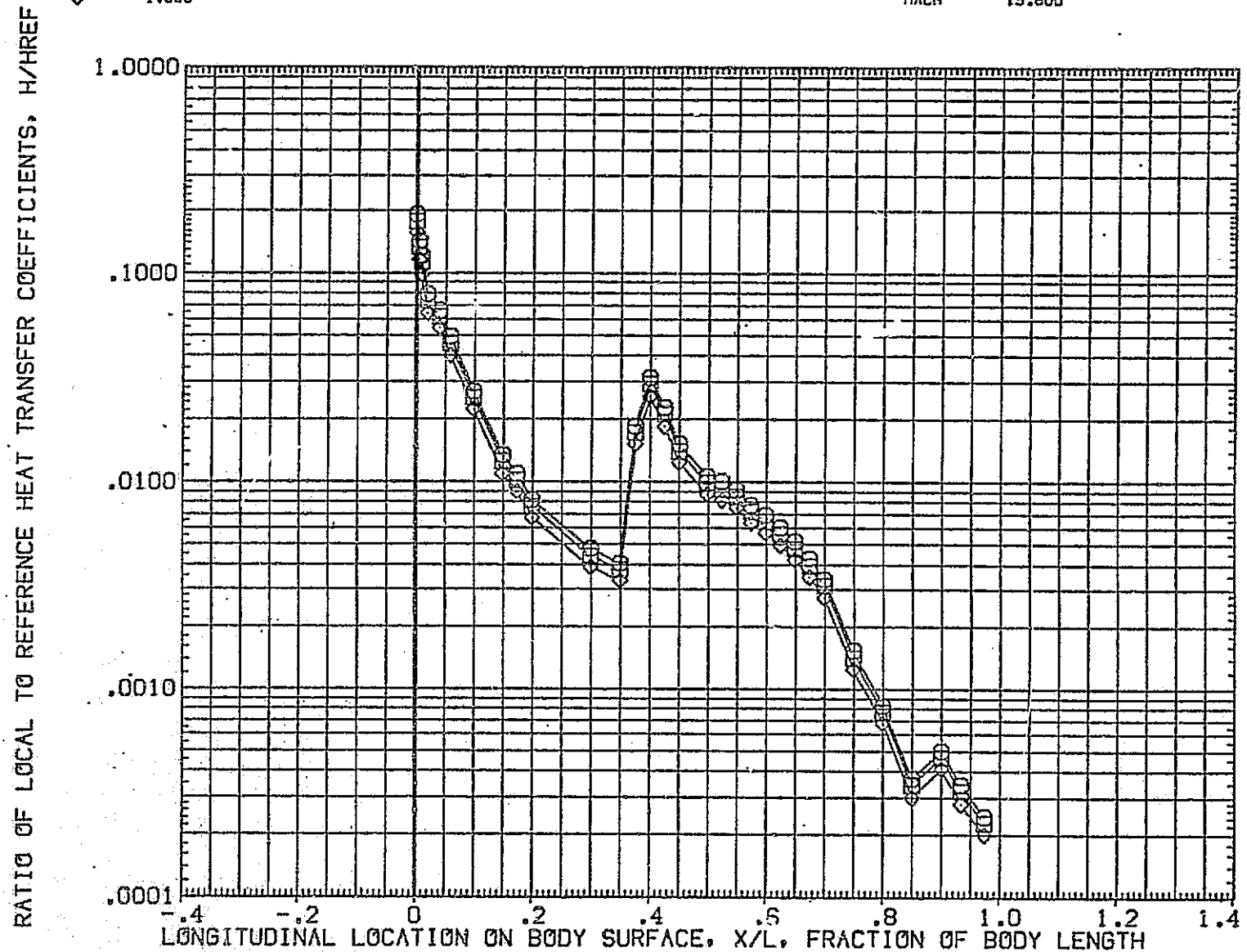


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

IH19 B22C7F5M4V7W111 T8 EXTERNAL TANK

(SQETO1)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.950	.000	.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.030	DELTAH	.175
MACH	19.800		

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $h/h_{REF}$

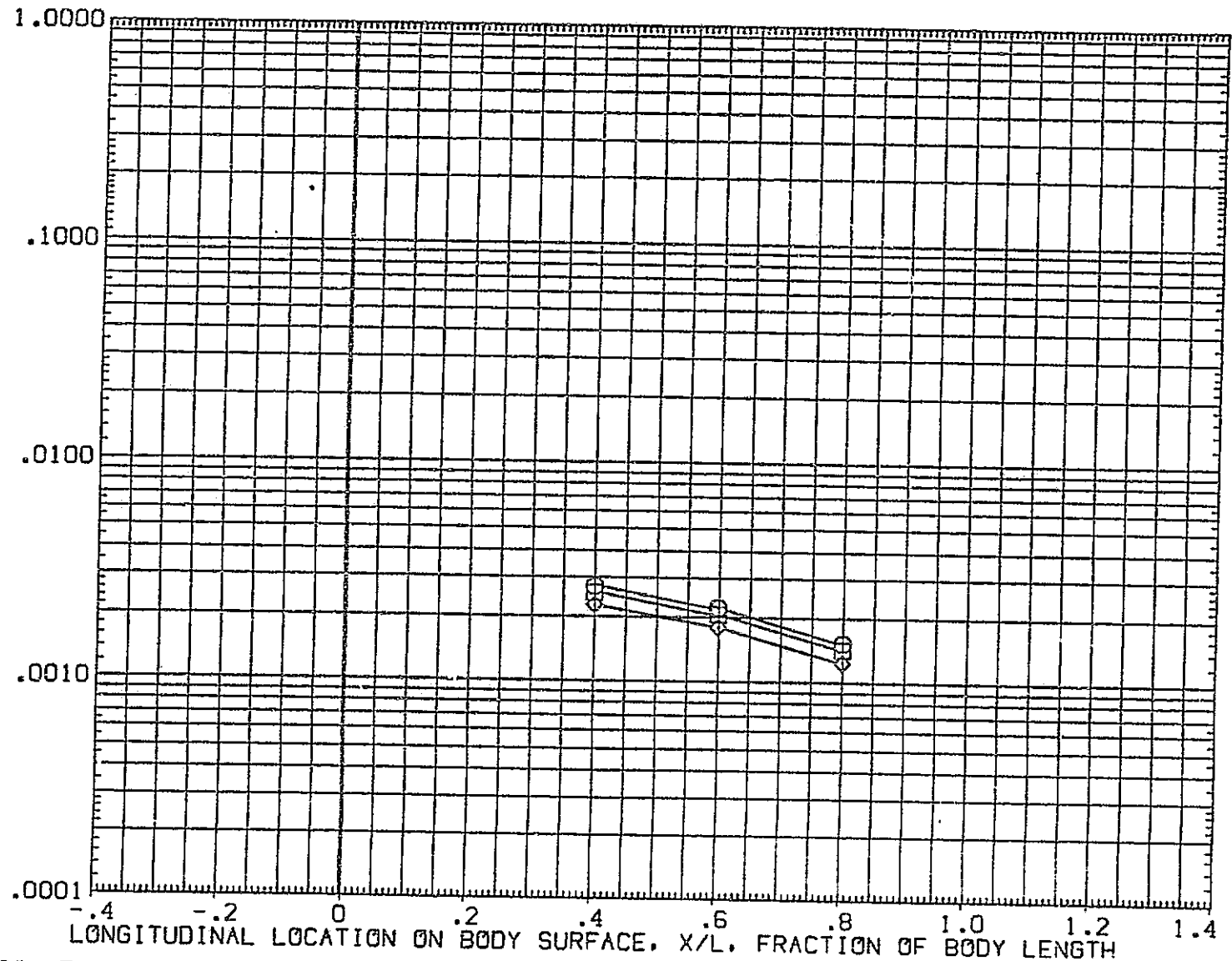


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

SYMBOL	HAY/HT	PHI	ALPHA
◇	.850	45.000	.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RH/L .500
BLTRIP	.030	DELTAH .175
MACH	15.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

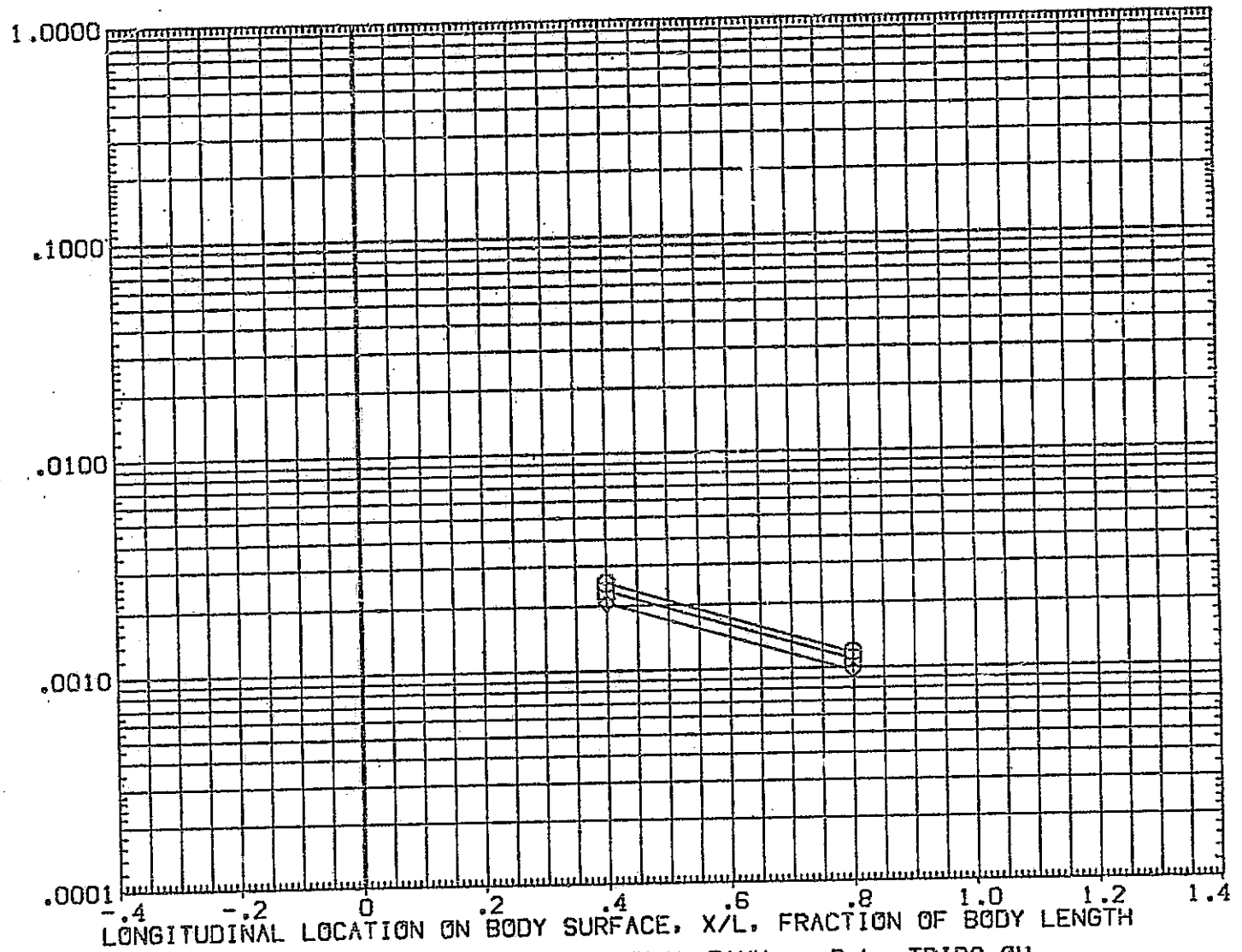


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON



IH19 B22C7F5M4V7W111 T8 EXTERNAL TANK

(SQETO1)

SYMBOL	HAY/HT	PHI	ALPHA
□	.850	67.500	.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.030	DELTAH	.175
MACH	19.800		

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

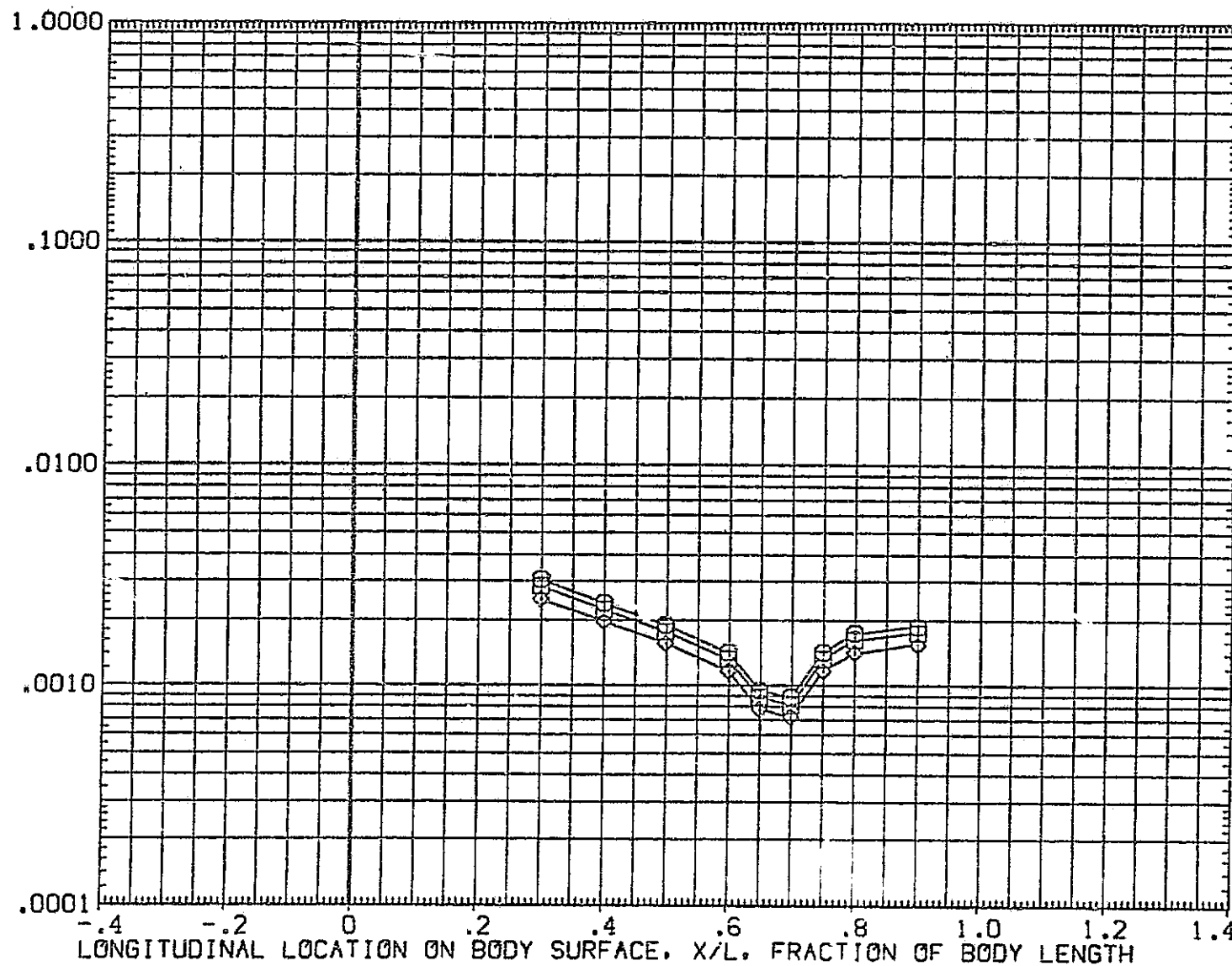


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	90.000	.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RM/L	.500
BLTRIP	.030	DELTAH	.175
MACH	19.800		

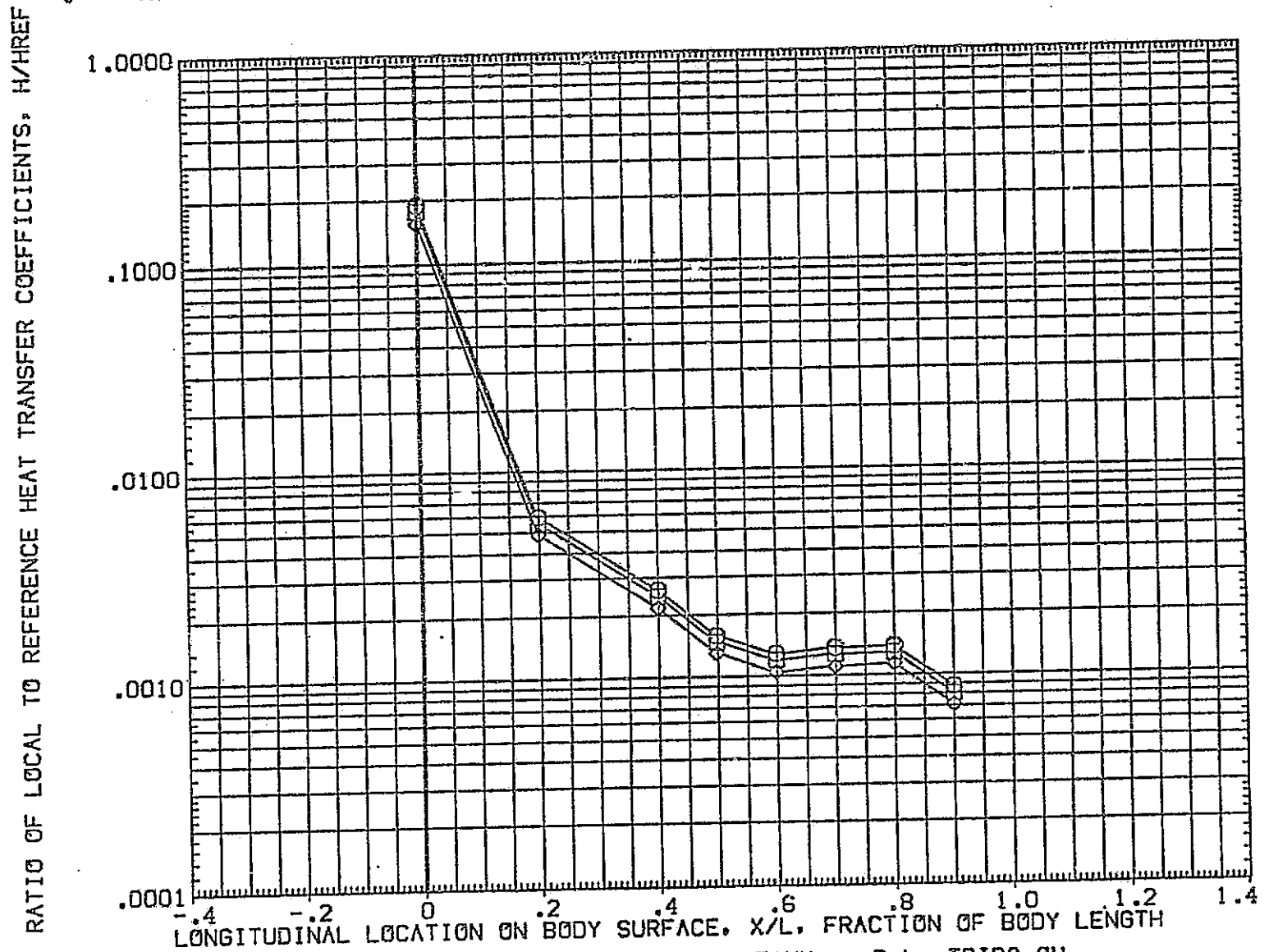


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

IH19 B22C7F5M4V7W111 T8 EXTERNAL TANK

(SQETO1)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	112.500	.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.030	DELTAH	.175
MACH	19.800		

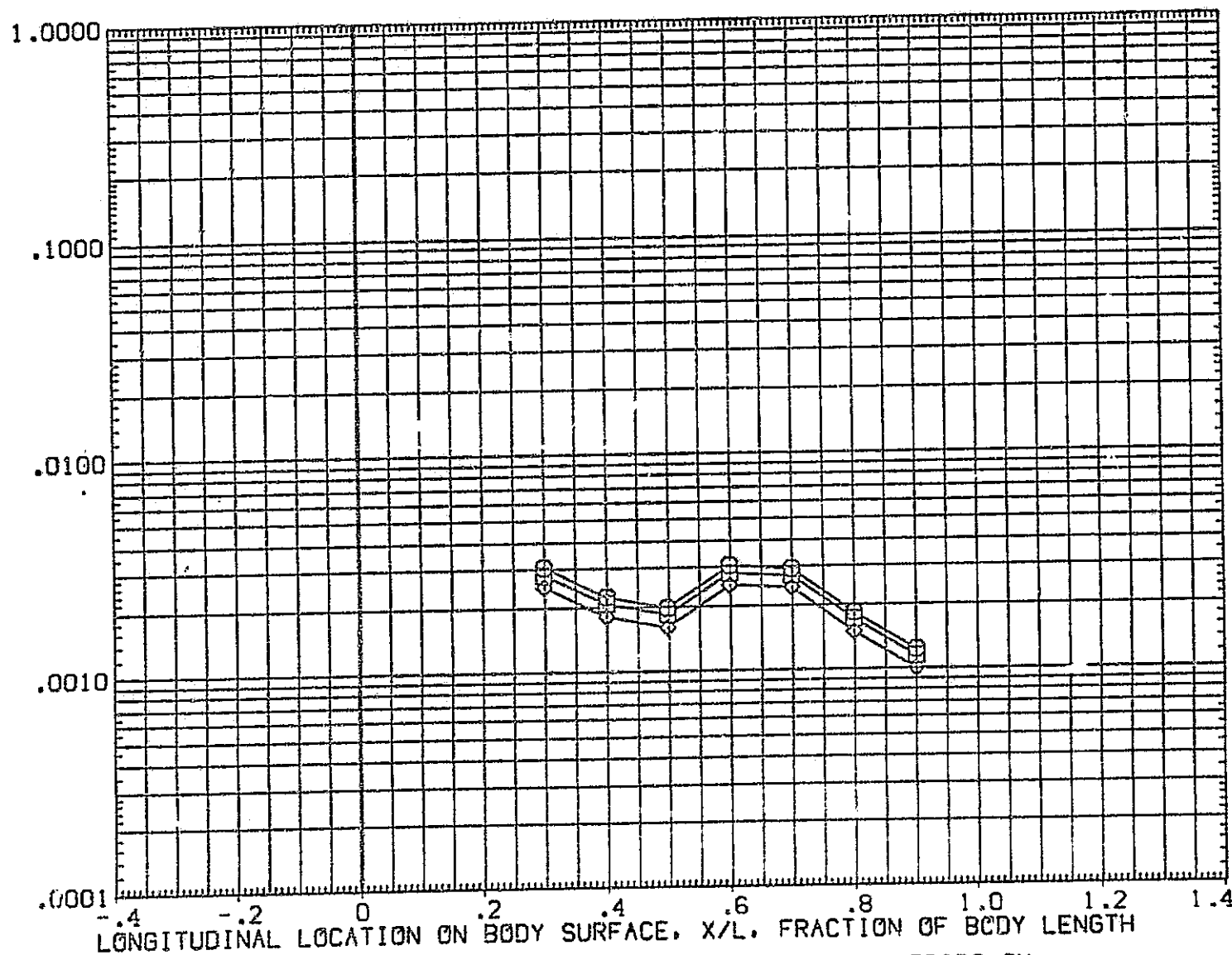
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

SYMBOL	HAW/HT	PHI	ALPHA
□	.850	135.000	.000
◇	.900		
	1.000		

PARAMETRIC VALUES		
BETA	.000	RM/L .500
BLTRIP	.030	DELTAH .175
HACH	19.800	

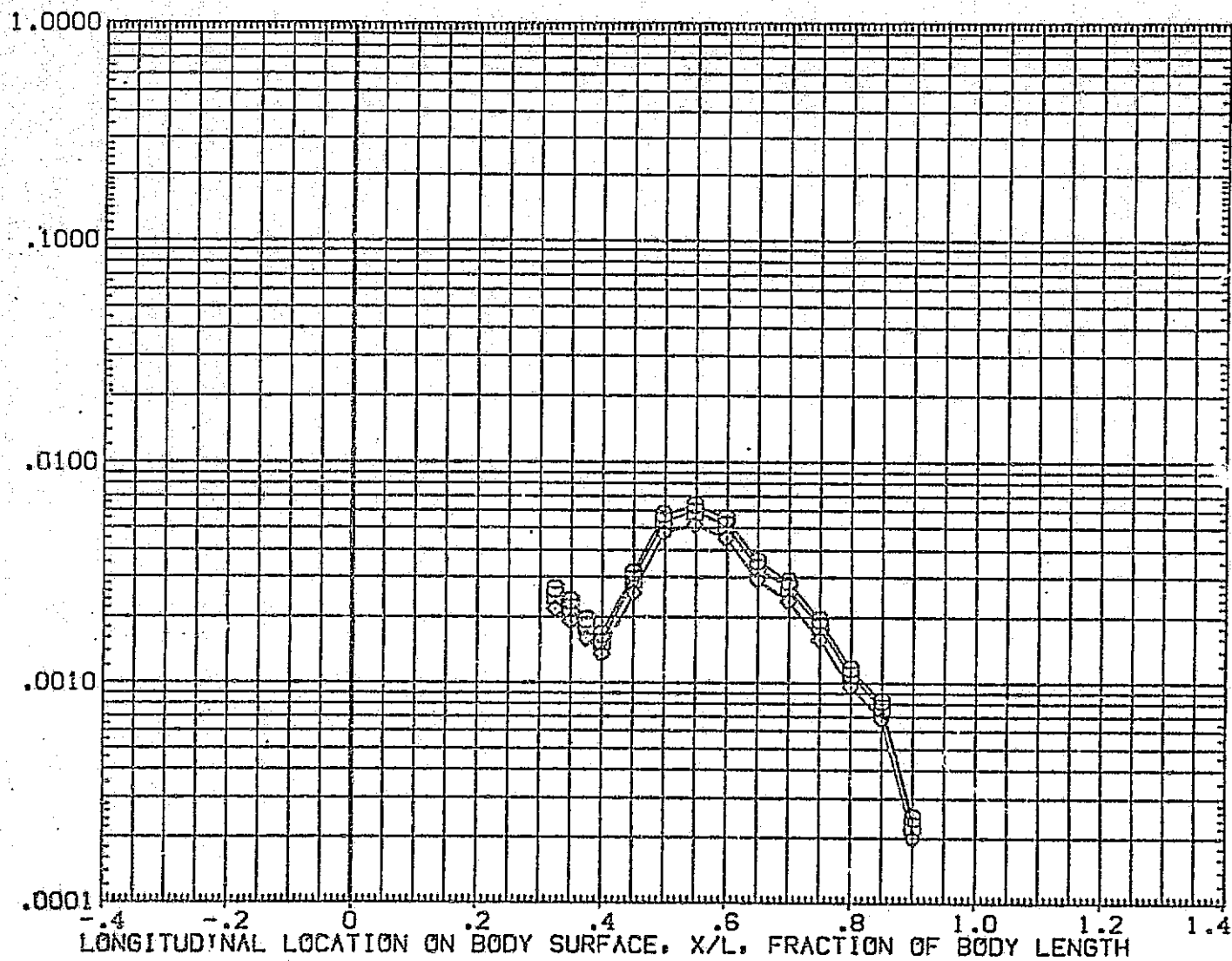
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

IH19 B22C7F5M4V7W111 T8 EXTERNAL TANK

(SQETO1)

SYMBOL  
◇ □ ○

HAW/HT  
.850  
.900  
1.000

PHI  
157.500

ALPHA  
.000

PARAMETRIC VALUES

BETA	.000	RN/L	.503
BLTRIP	.030	DELTAH	.175
MACH	19.806		

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

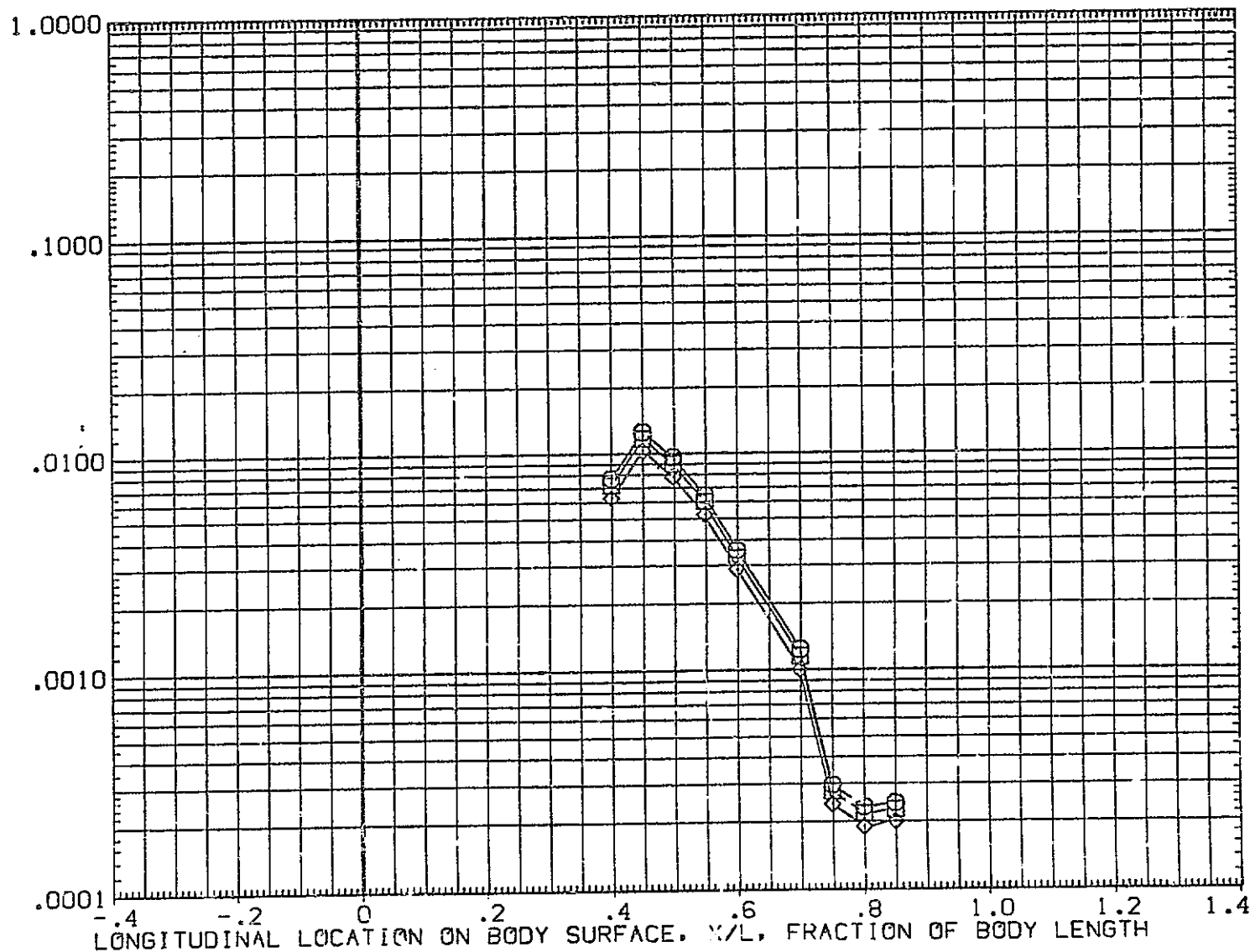


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

IH19 B22C7F5M4V7W111 T8 EXTERNAL TANK

(SQET01)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	180.000	.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	DELTAH .175
HACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

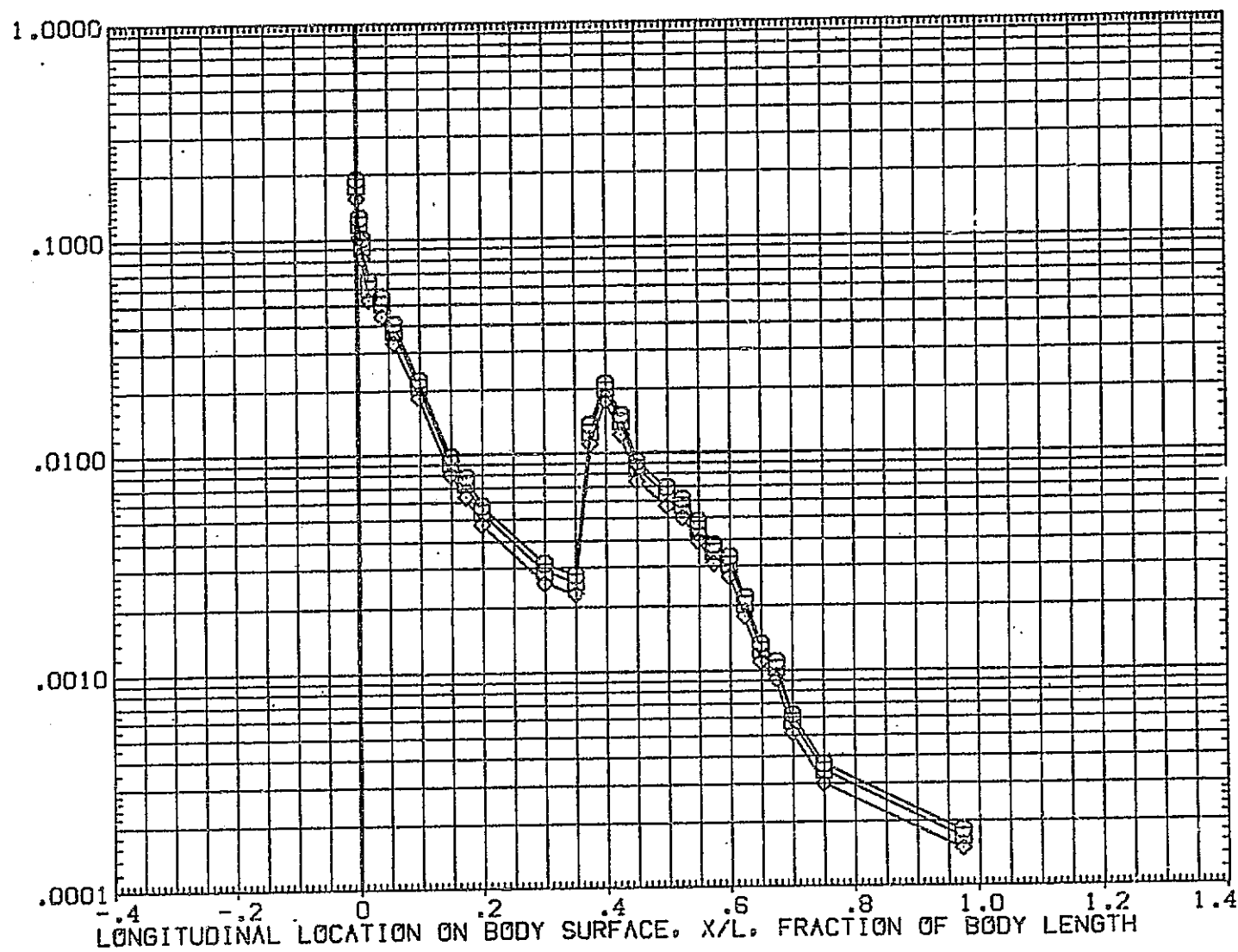


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON



IM19 B22C7F5M4V7W111 T8 EXTERNAL TANK

(SQETO1)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	.000	5.000
□	.900		
○	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.030	DELTAH	.175
HACH	19.800		

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

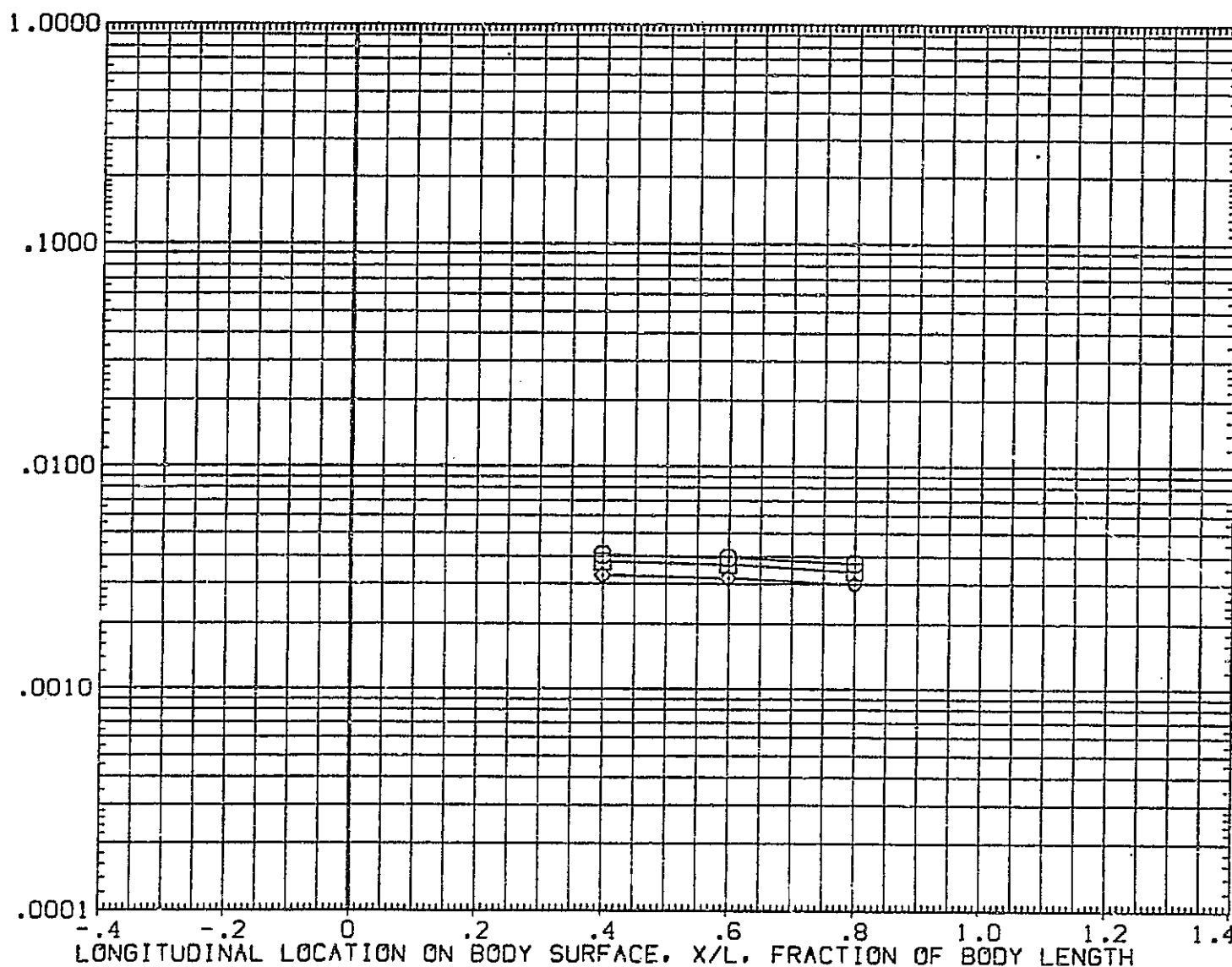


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	45.000	5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	DELTAH .175
HACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

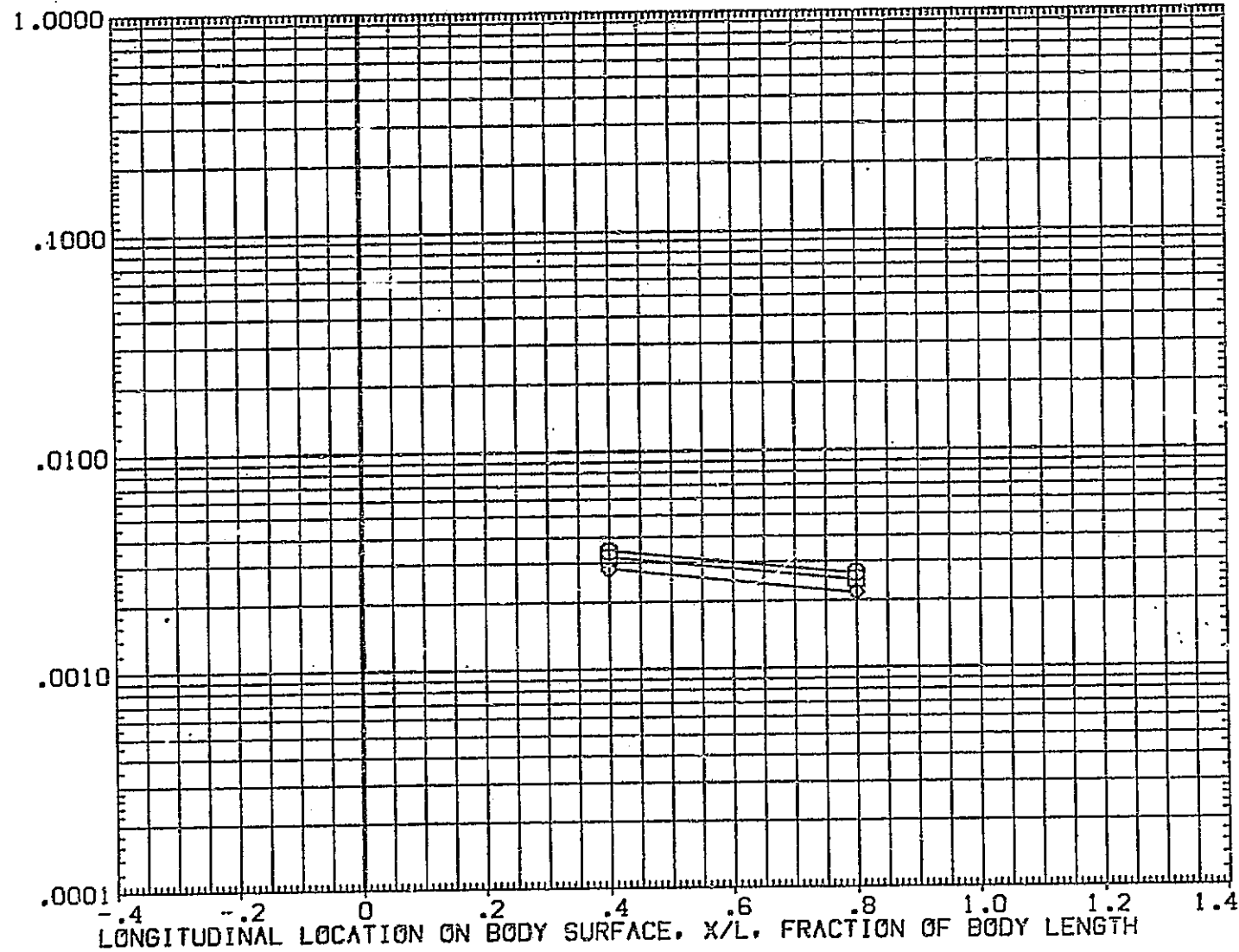


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON



IH19 B22C7F5M4V7W111 T8 EXTERNAL TANK

(SQETO1)

SYMBOL	HAW/HT	PHI	ALPHA
□	.850	67.500	5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	DELTAH .175
MACH	19.800	

RATIO OF 1 CAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

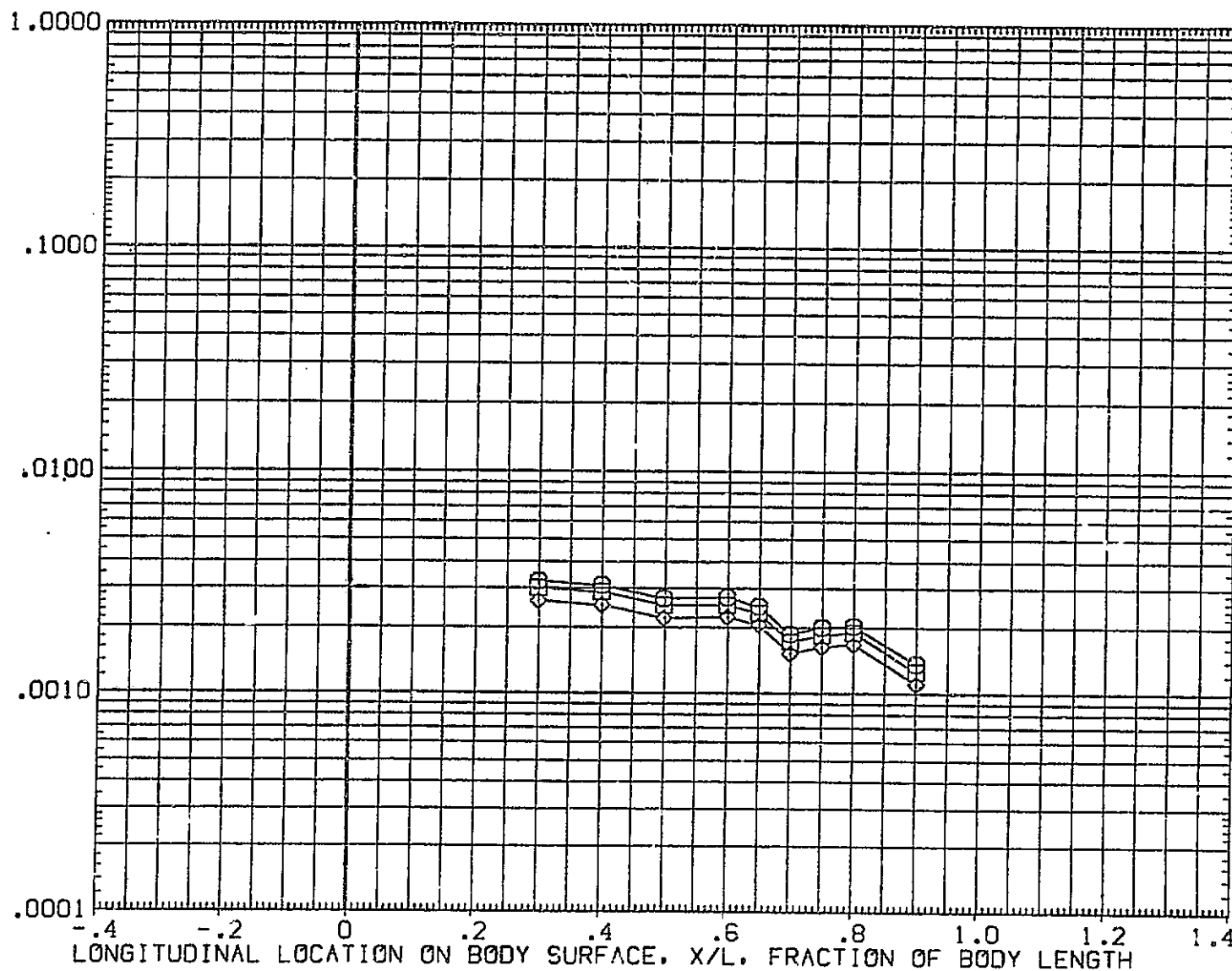


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	50.000	5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	DELTAH .175
MACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

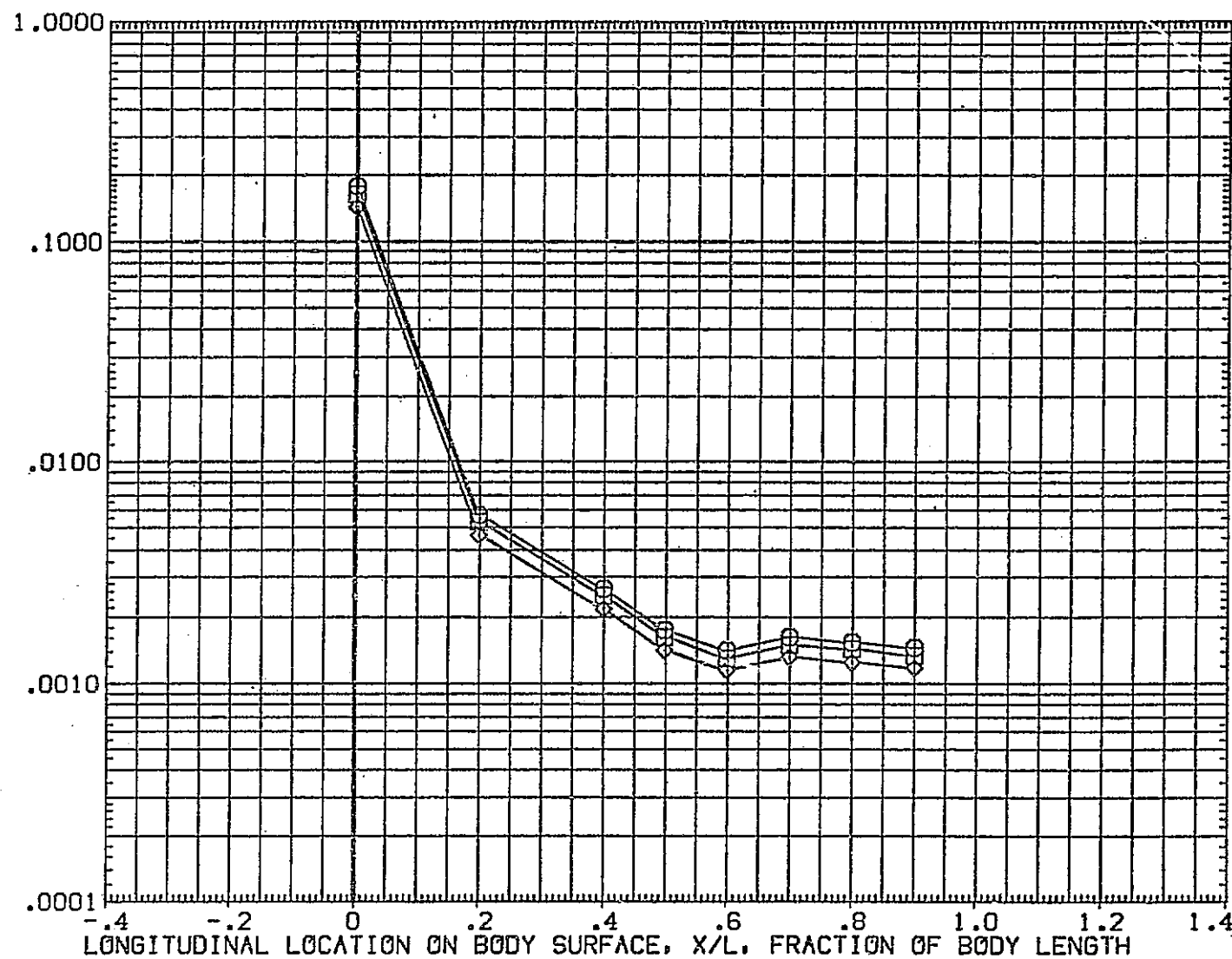


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON



IH19 B22C7F5M4V7W111 T8 EXTERNAL TANK

(SQETO1)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	112.500	5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	DELTAH .175
MACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

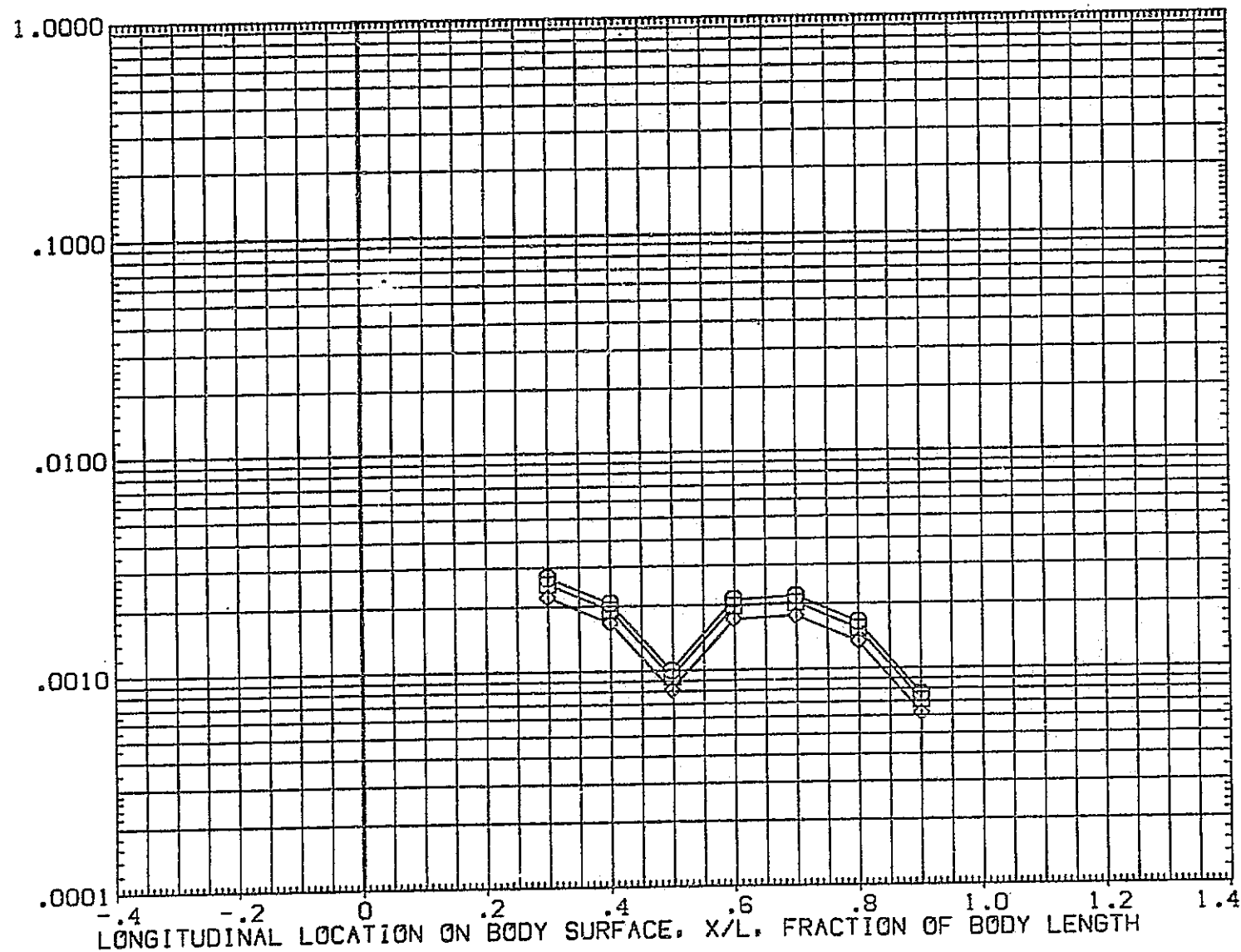


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

SYMBOL	HAW/HT.	PHI	ALPHA
○	.850	135.000	5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	DELTAH .175
MACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

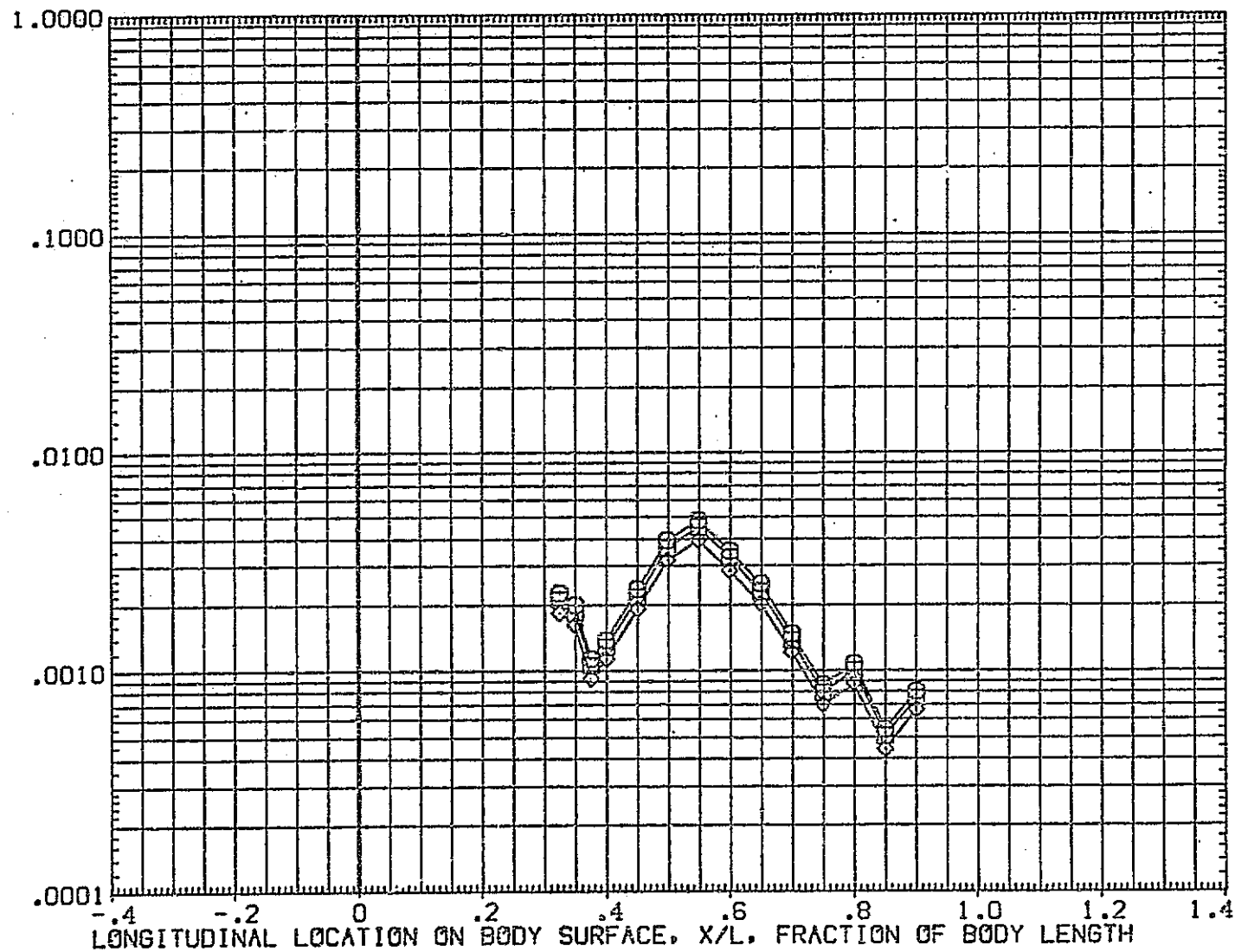


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

IH19 B22C7F5M4V7W111 T8 EXTERNAL TANK

(SQETO1)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	157.500	5.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	DELTAH .175
HACH	19.860	

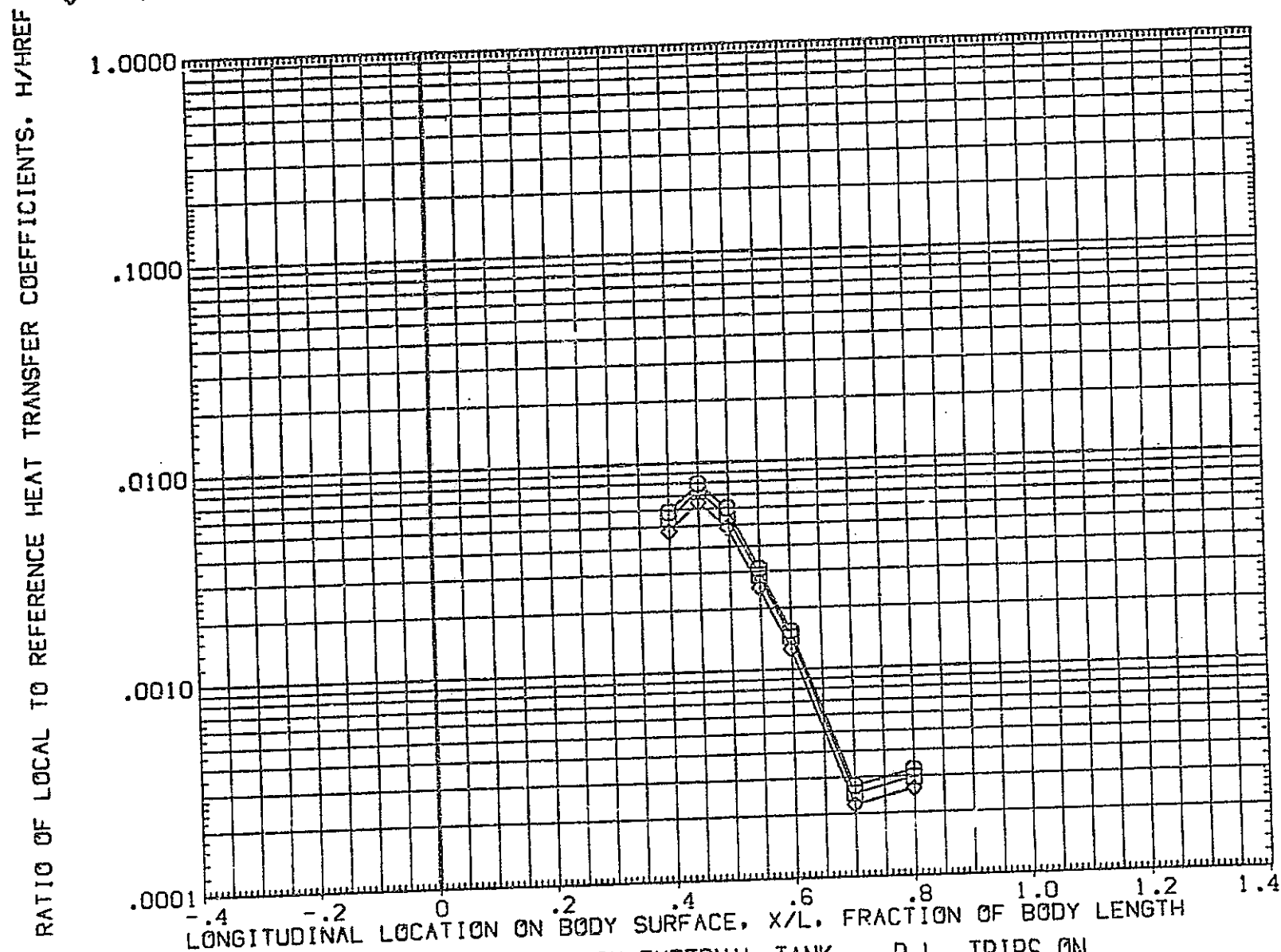


FIG 5 AERONEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

SYMBOL	HAW/HT	PHI	ALPHA
□	.850	180.000	5.000
◇	.900		
	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	DELTAH .175
HACH	19.800	

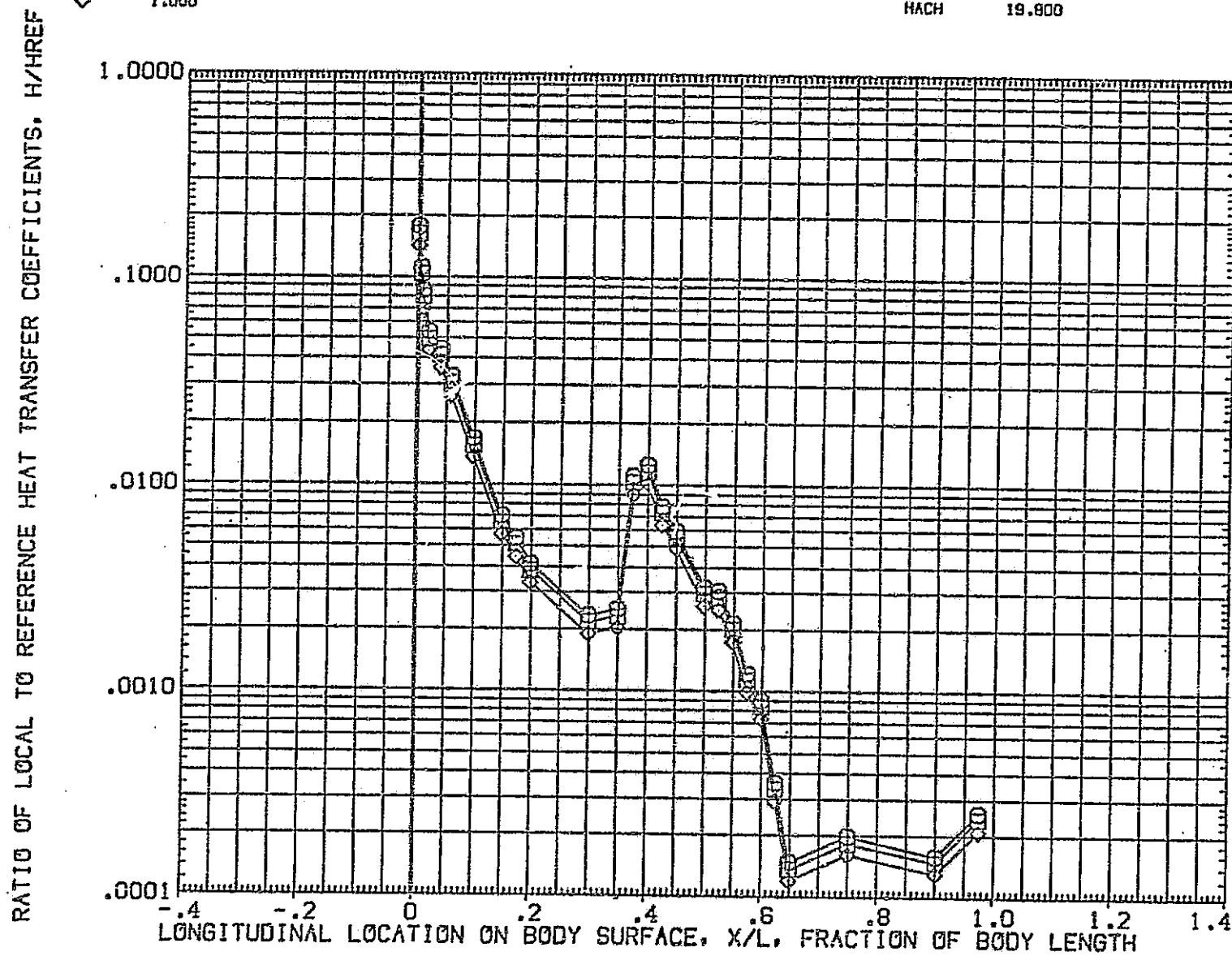


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

IH19 RATIO (ORB+TANK)/TANK EXTERNAL TANK

(EQETO1)

SYMBOL

HAW/HT

PHI

ALPHA

BETA  
BLTRIP

PARAMETRIC VALUES

.000

RN/L

.500

.030

MACH

19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.. HI/HU

◇ □ ○

.850  
.900  
1.000

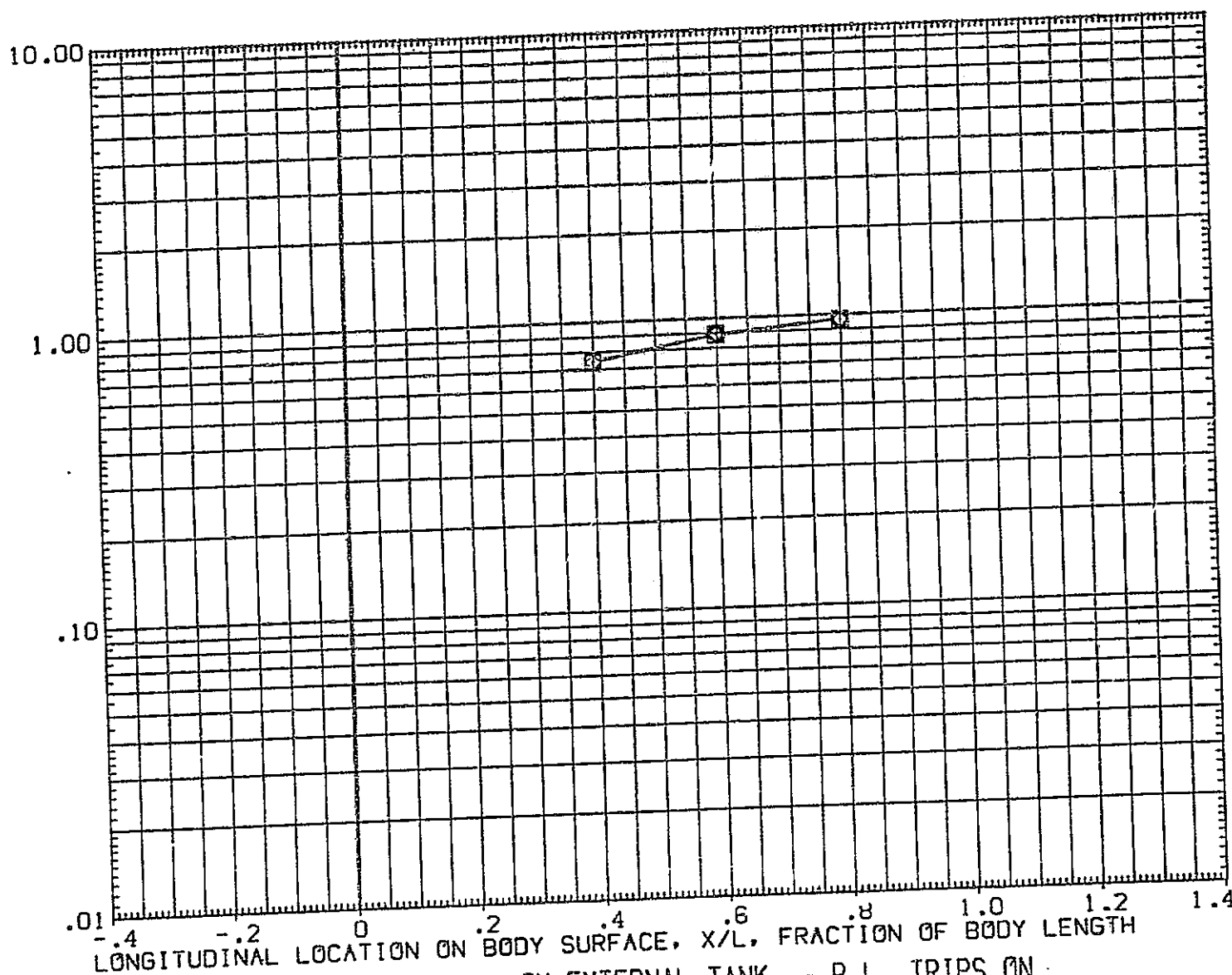


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

SYMBOL

HAW/HT

PHI

ALPHA

PARAMETRIC VALUES

BETA

.000

RN/L

.500

BLTRIP

.030

HACH

19.800

 $\diamond$   $\square$   $\square$ 

 .850  
 .900  
 1.000

45.000

-10.000

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF., HI/HU

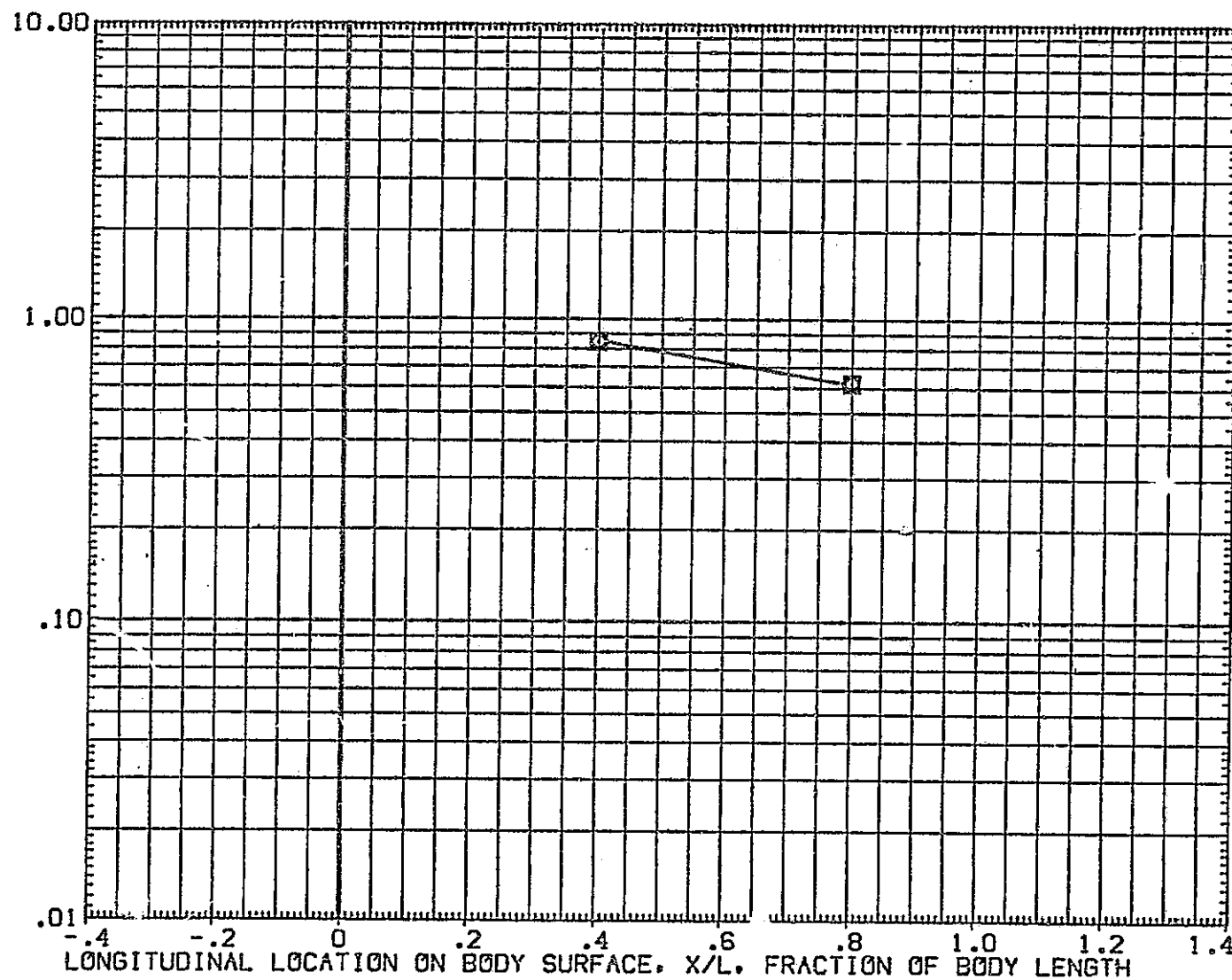


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON



IH19 RATIO (ORB+TANK)/TANK EXTERNAL TANK

(EQETO1)

SYMBOL

HAW/HT

PHI

ALPHA

BETA

PARAMETRIC VALUES

.000

RN/L

.500

BLTRIP

.030

MACH

19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF., HI/HU

◇ □ ○

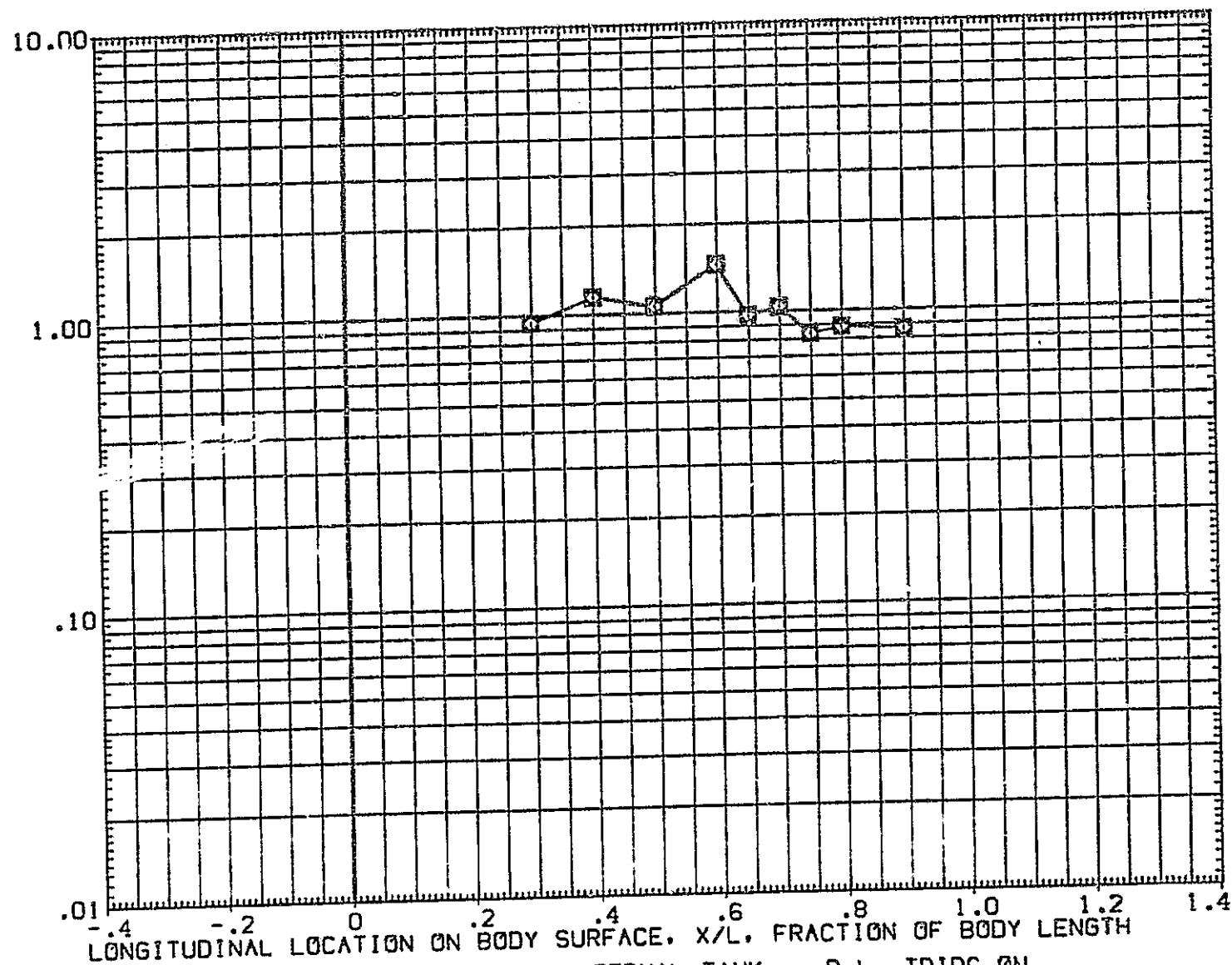


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

SYMBOL

HAW/HT

PHI

ALPHA

PARAMETRIC VALUES

BETA

RN/L

.500

BLTRIP

.030

HACH

19.800

◇  
 □  
 ○

.850  
 .900  
 1.000

90.000

-10.000

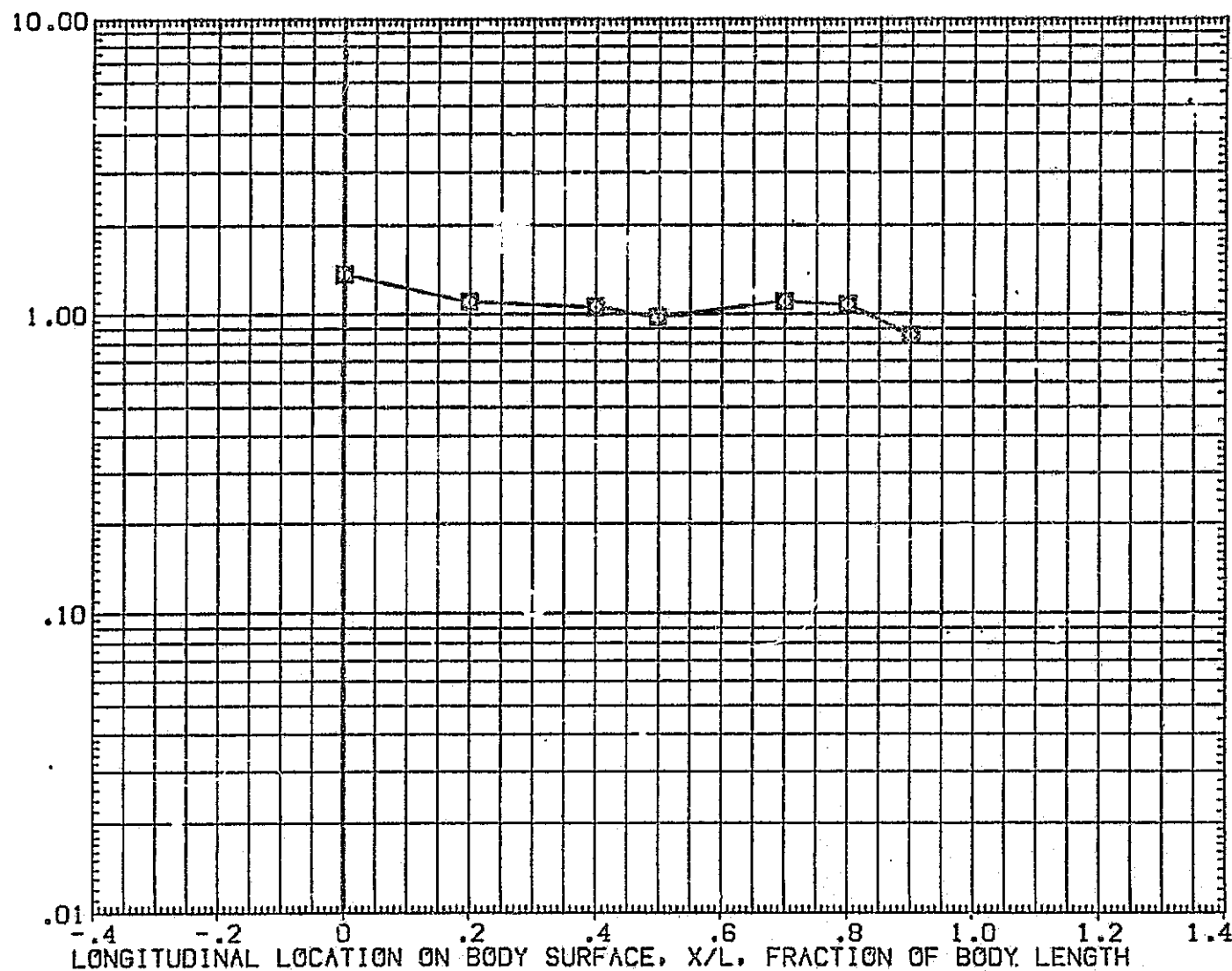
RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $H_i/H_u$ 

FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

IH19 RATIO (ORB+TANK)/TANK EXTERNAL TANK

(EQETO1)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	112.500	-10.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	MACH 19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF., HI/HU

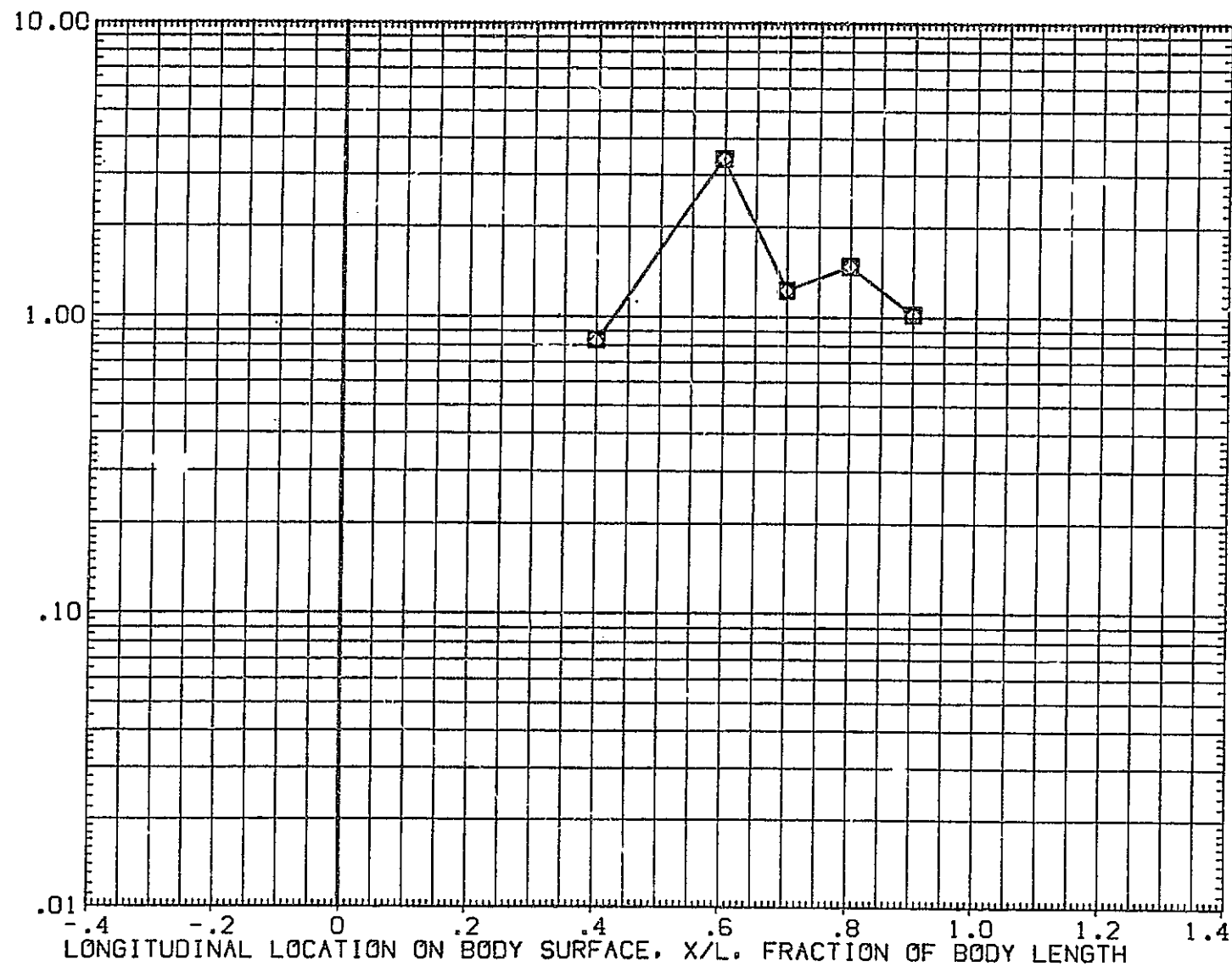


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	135.000	-10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	MACH 19.800

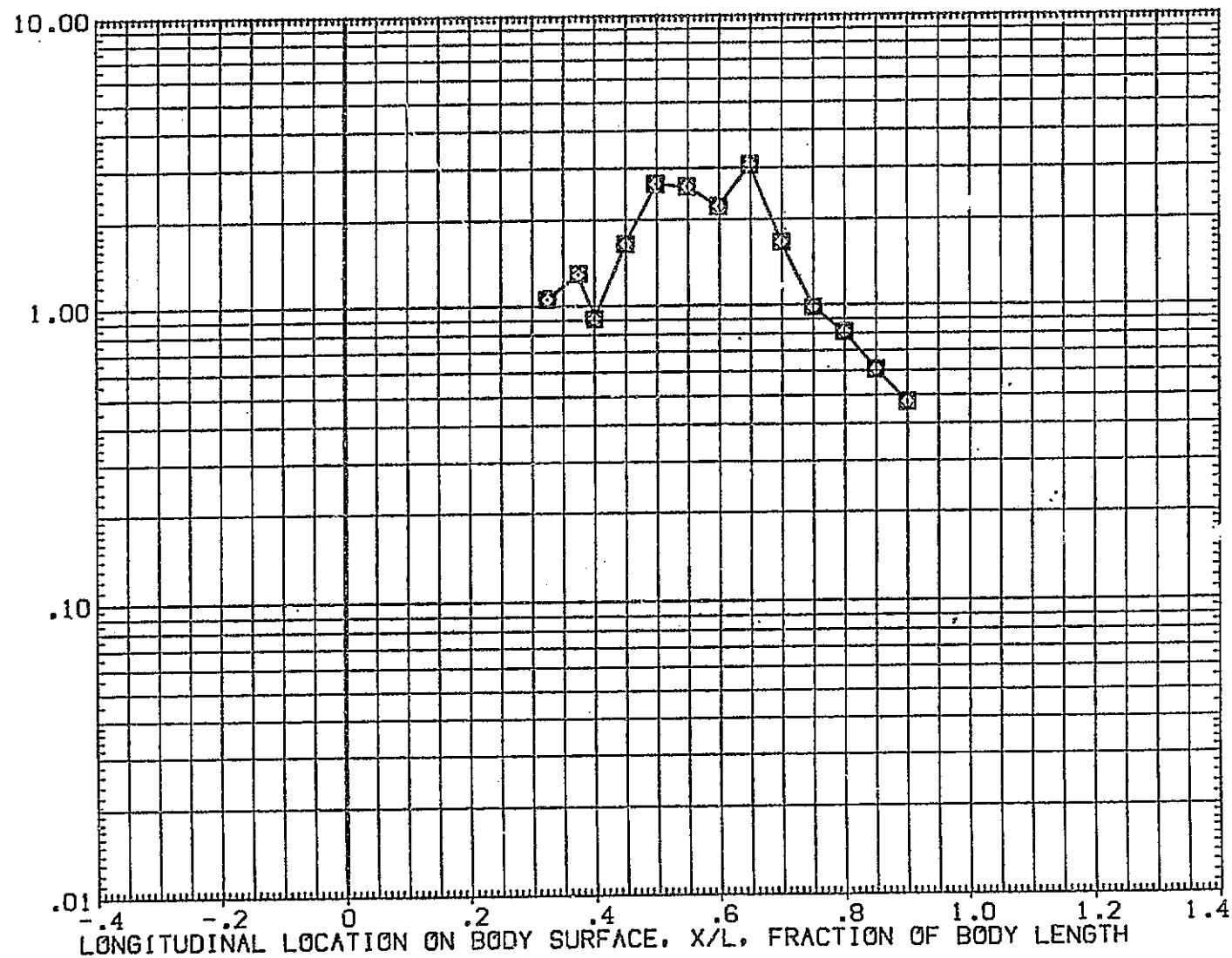
RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $HI/HU$ 

FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

IH19 RATIO (ORB+TANK)/TANK EXTERNAL TANK

(EQETO1)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	157.500	-10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.030	MACH	19.900

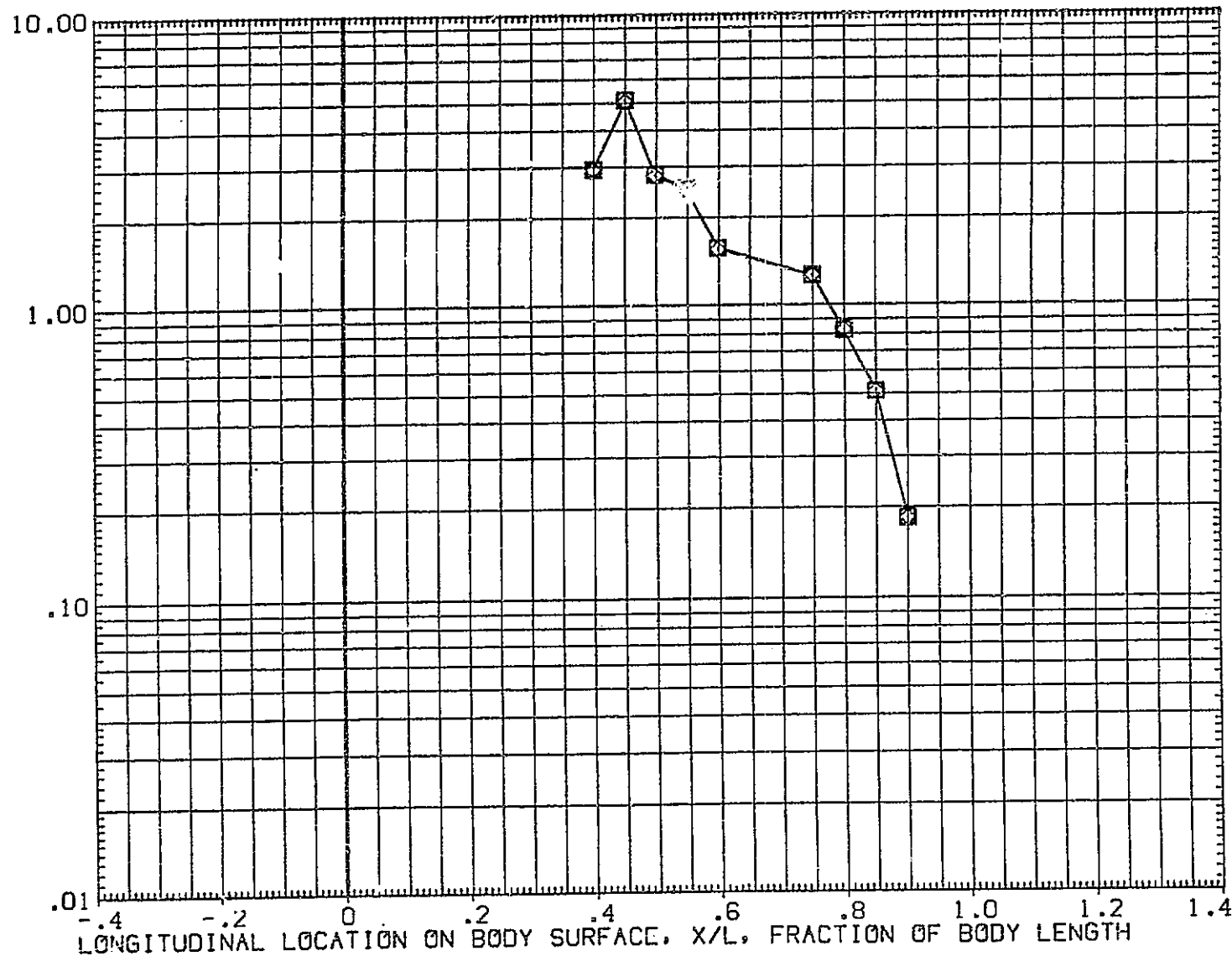
RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $HI/HU$ 

FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	180.000	-10.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	MACH 19.900

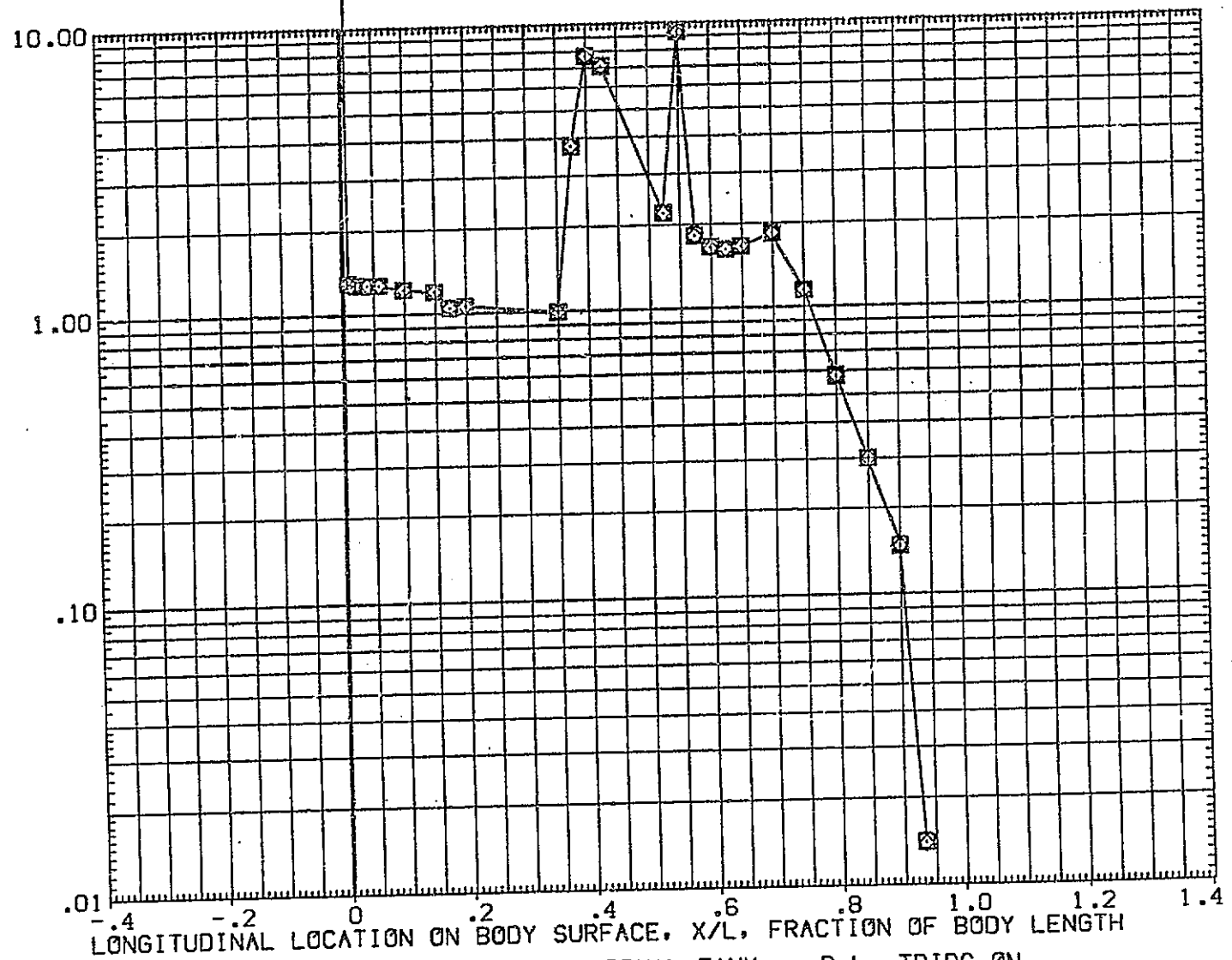
RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.  $HI/HU$ 

FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

IH19 RATIO (ORB+TANK)/TANK EXTERNAL TANK

(EQETO1)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	.000	-5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	MACH 19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF., HI/HU

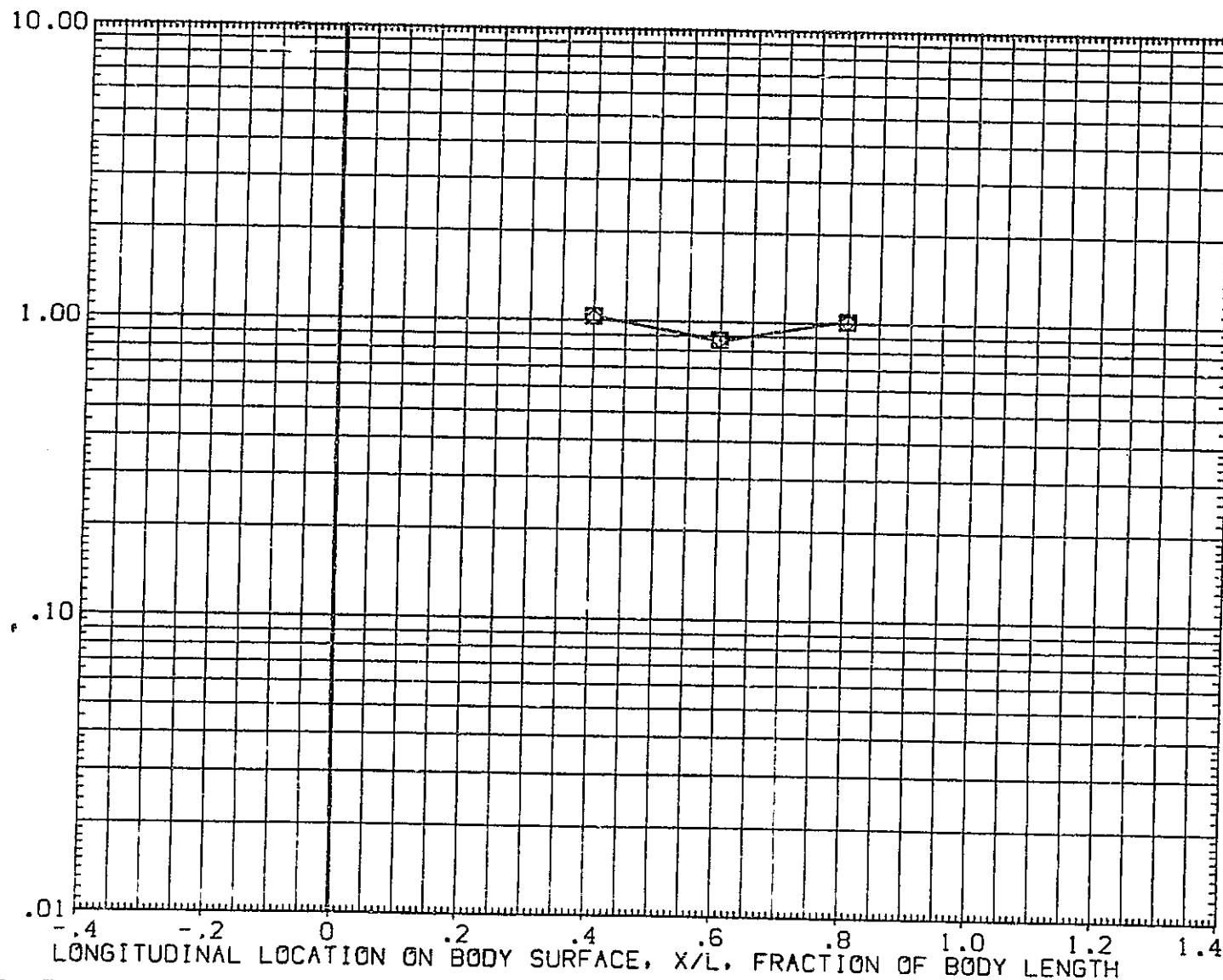


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

# IH19 RATIO (ORBIT+TANK)/TANK EXTERNAL TANK

(EQETO1)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	45.000	-5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RM/L .500
BLTRIP	.030	MACH 19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.. HI/HU

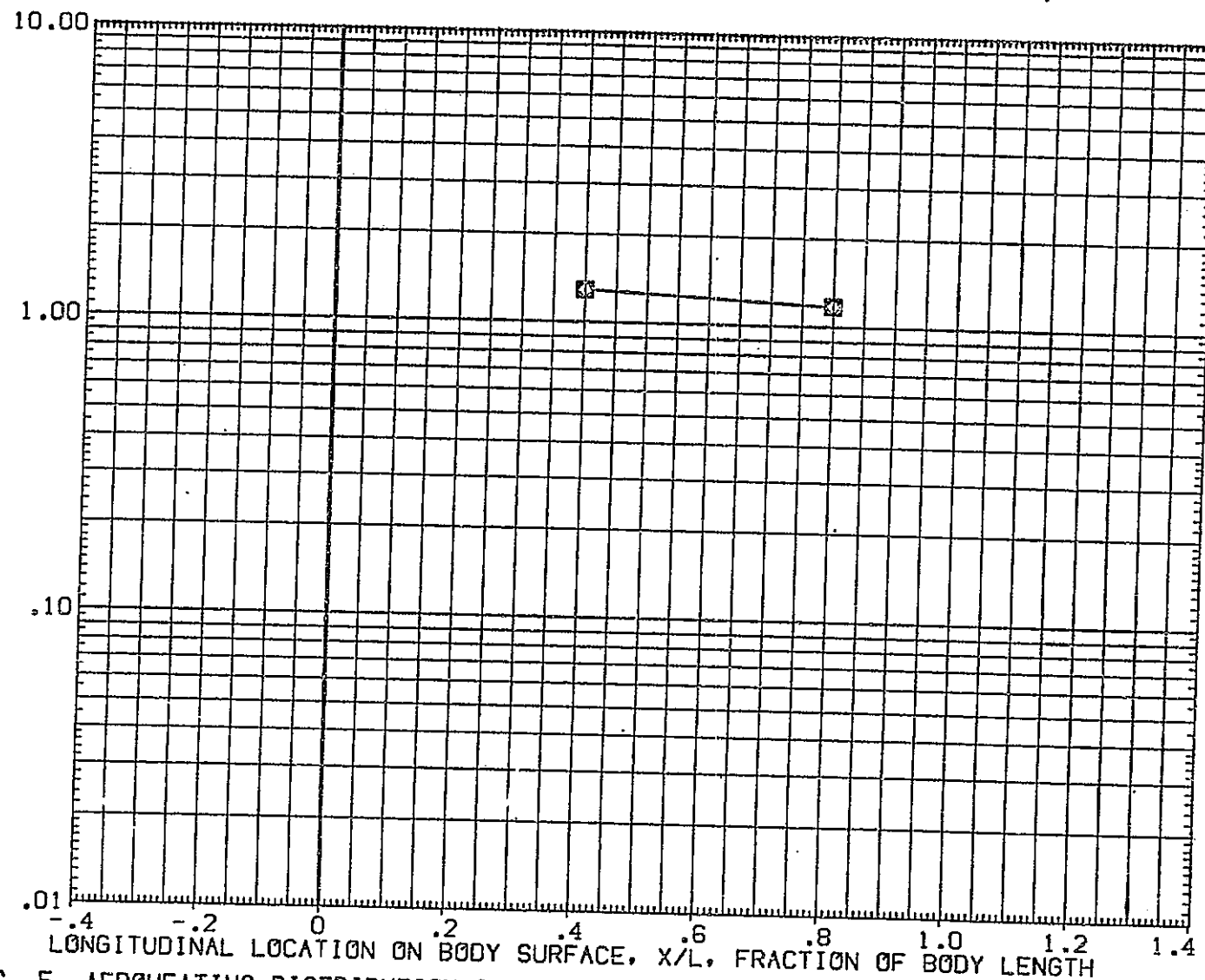


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON



# IH19 RATIO (ORB+TANK)/TANK EXTERNAL TANK

(EQETO1)

SYMBOL	HAY/HT	PHI	ALPHA
◇	.850	67.500	-5.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L
BLTRIP	.030	MACH
		.500
		19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF., HI/HU

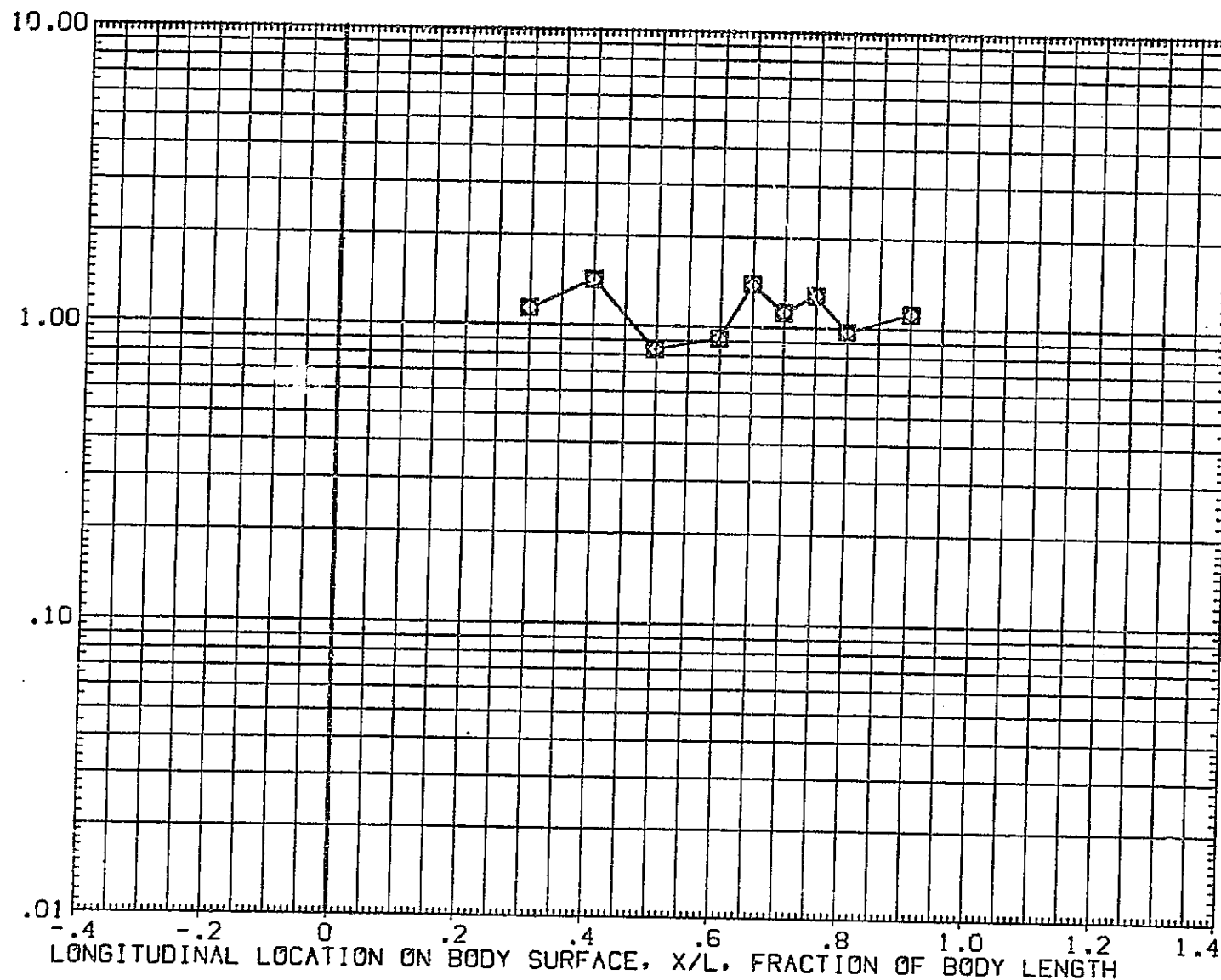


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

SYMBOL

HAW/HT

PHI

ALPHA

PARAMETRIC VALUES

BETA

.000

RN/L

.500

BLTRIP

.030

MACH

19.800

$\diamond$   
 $\square$   
 $\circ$

.850  
 .900  
 1.000

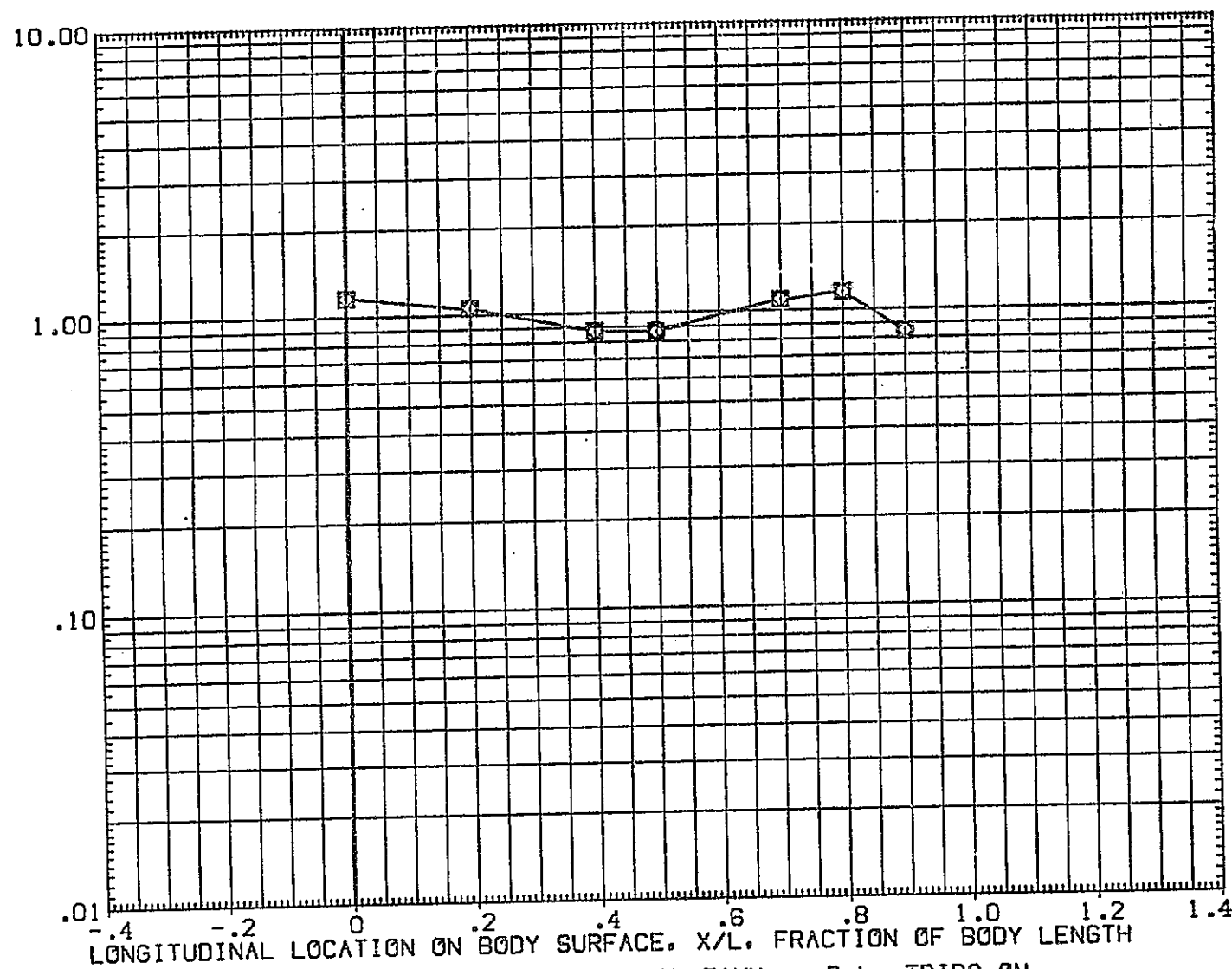
RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $HI/HU$ 

FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

# IH19 RATIO (ORB+TANK)/TANK EXTERNAL TANK

(EQET01)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	112.500	-5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L
BLTRIP	.030	MACH
		.500
		19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF., HI/HU

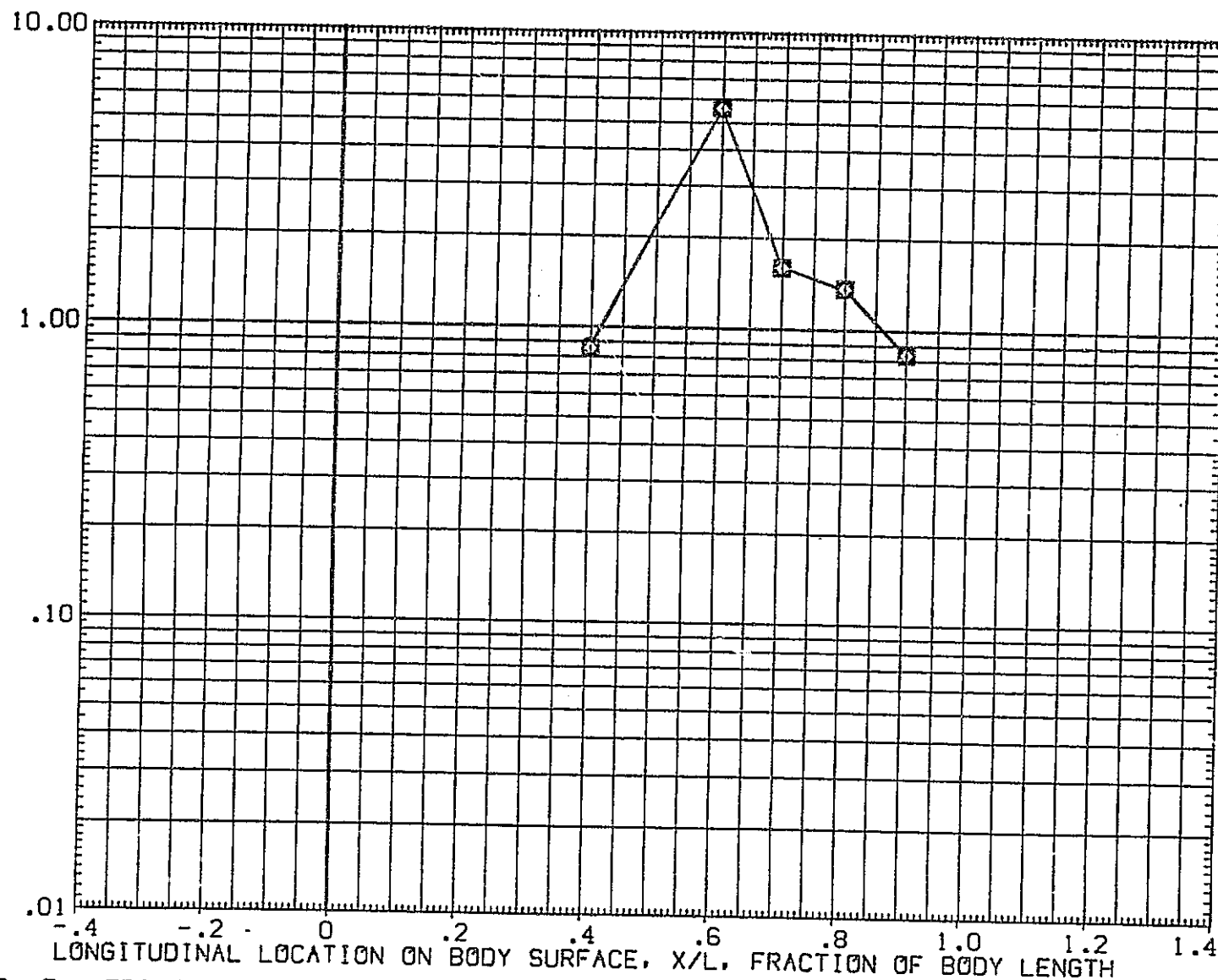


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	135.000	-5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .560
BLTRIP	.030	MACH 19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF., HI/HU

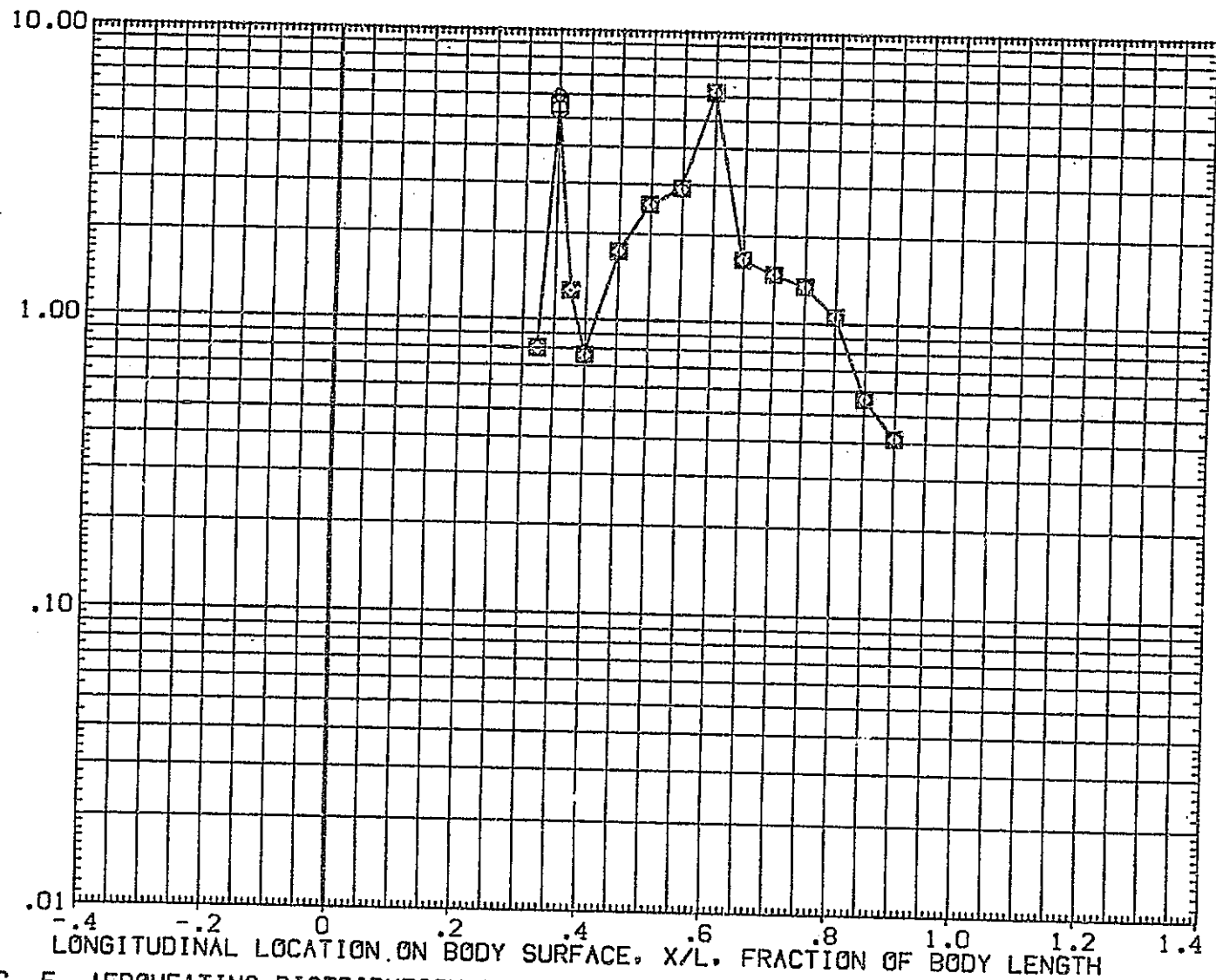


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

IH19 RATIO (ORB+TANK)/TANK EXTERNAL TANK

(EQETO1)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	157.500	-5.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	MACH 19.800

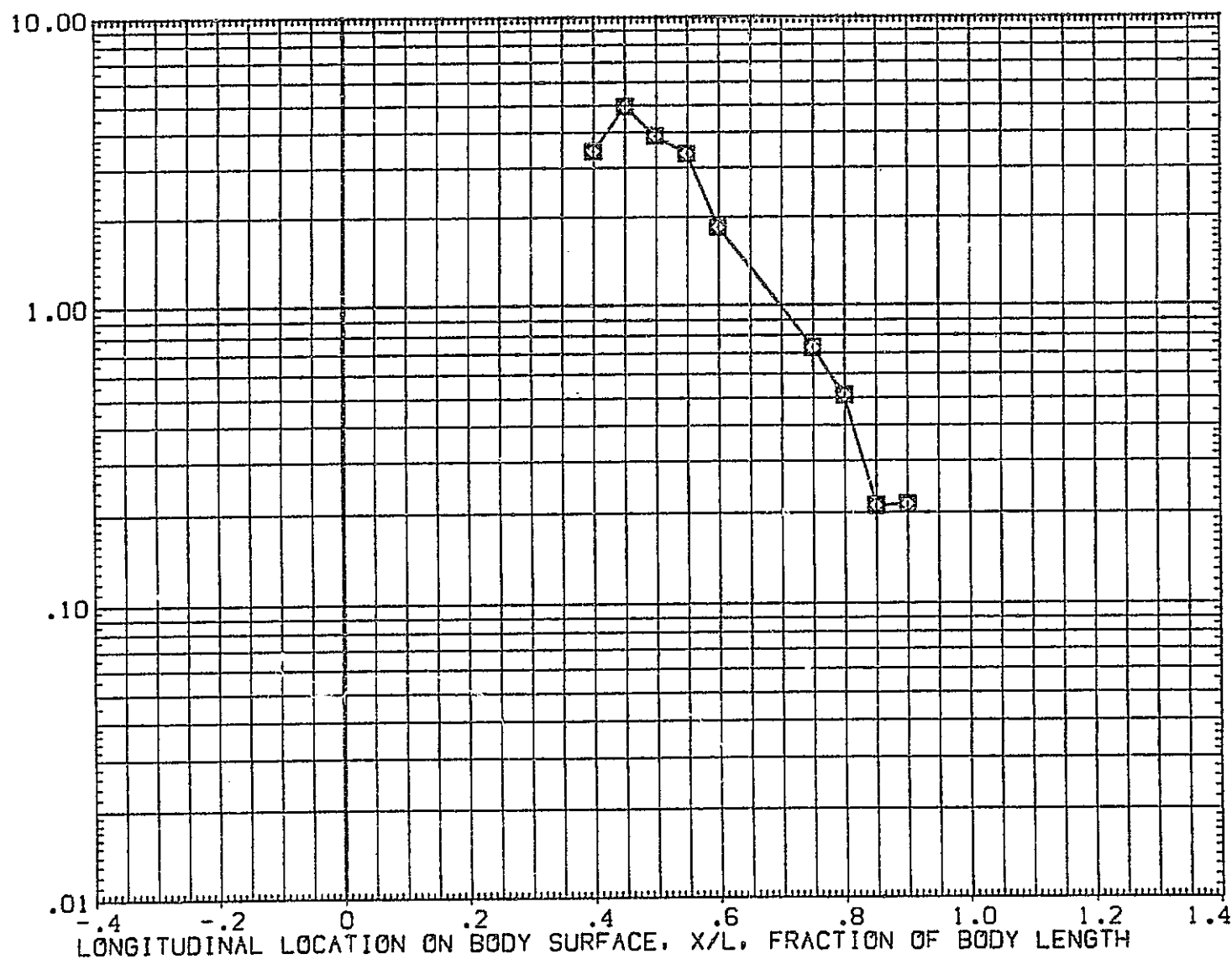
RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $HI/HU$ 

FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

## IH19 RATIO (ORB+TANK)/TANK EXTERNAL TANK

(EQETO1)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	180.000	-5.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	MACH 19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF., HI/HU

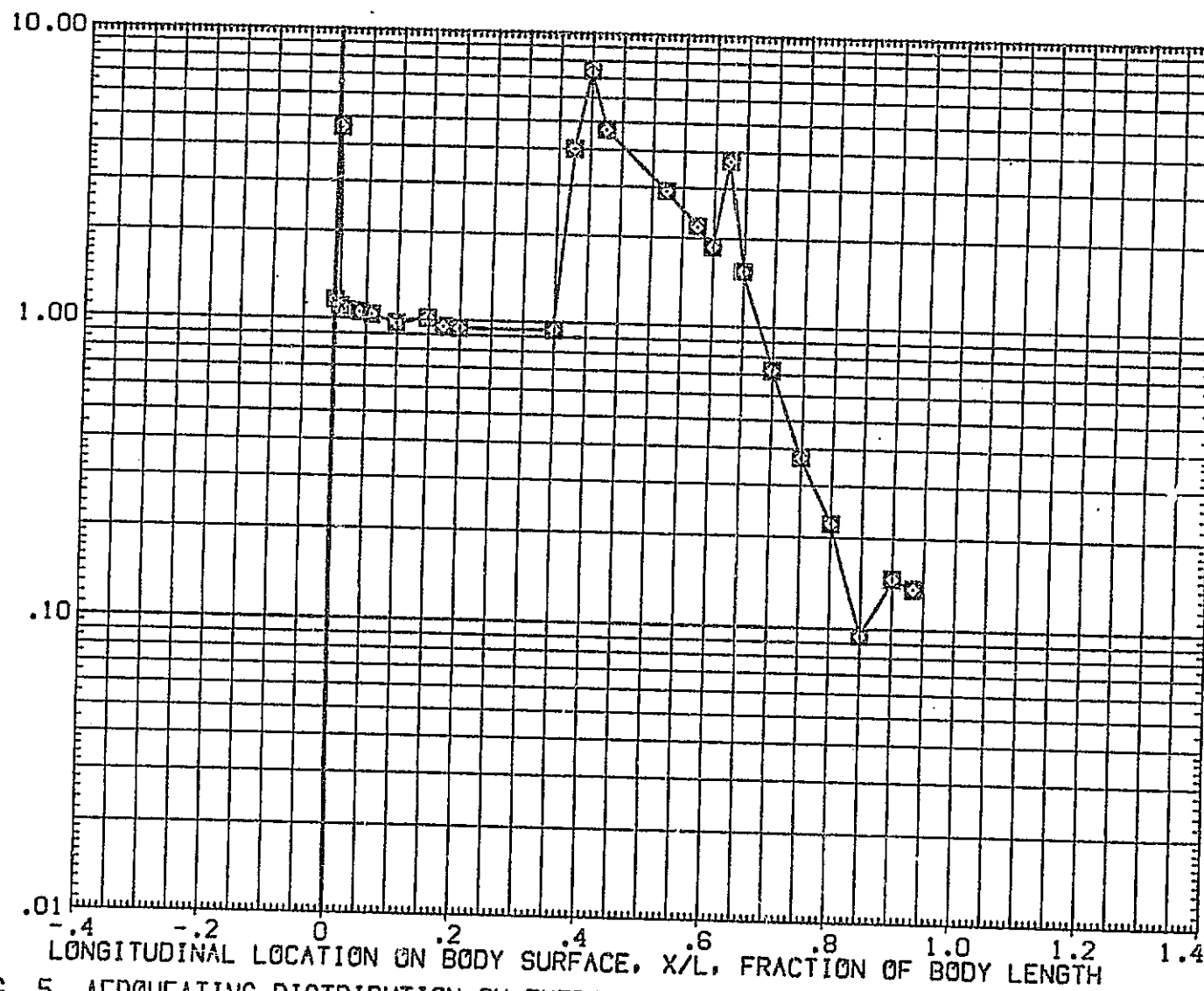


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON



IH19 RATIO (ORB+TANK)/TANK EXTERNAL TANK

(EQETO1)

SYMBOL	HAW/HT	PHI	ALPHA	PARAMETRIC VALUES			
				BETA	RN/L	.500	
◇□□	.850	.000	.000	BLTRIP	.030	HACH	19.800
	.900						
	1.000						

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF., HI/HU

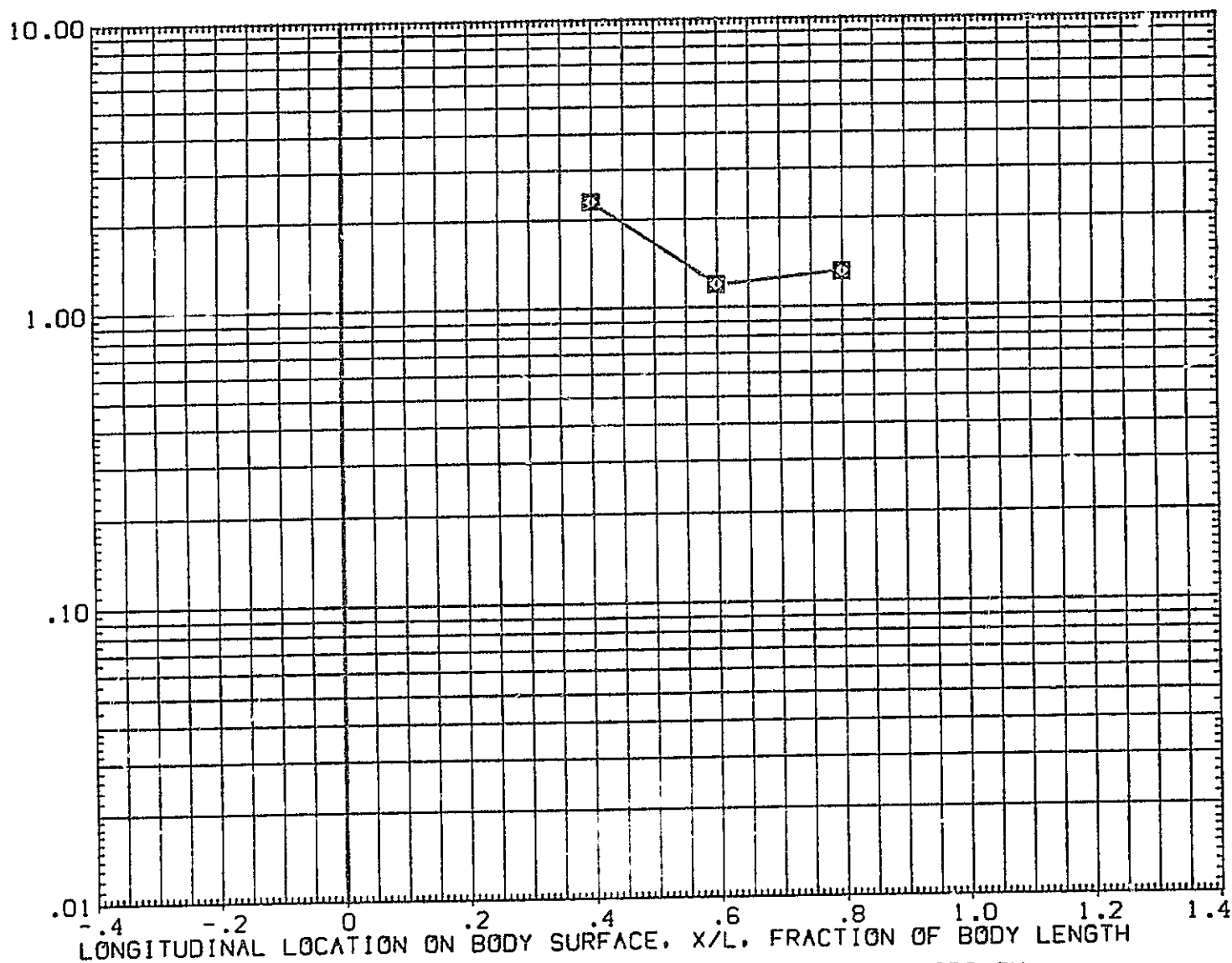


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	45.000	.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L
BLTRIP	.030	MACH
		.500
		19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.: HI/HU

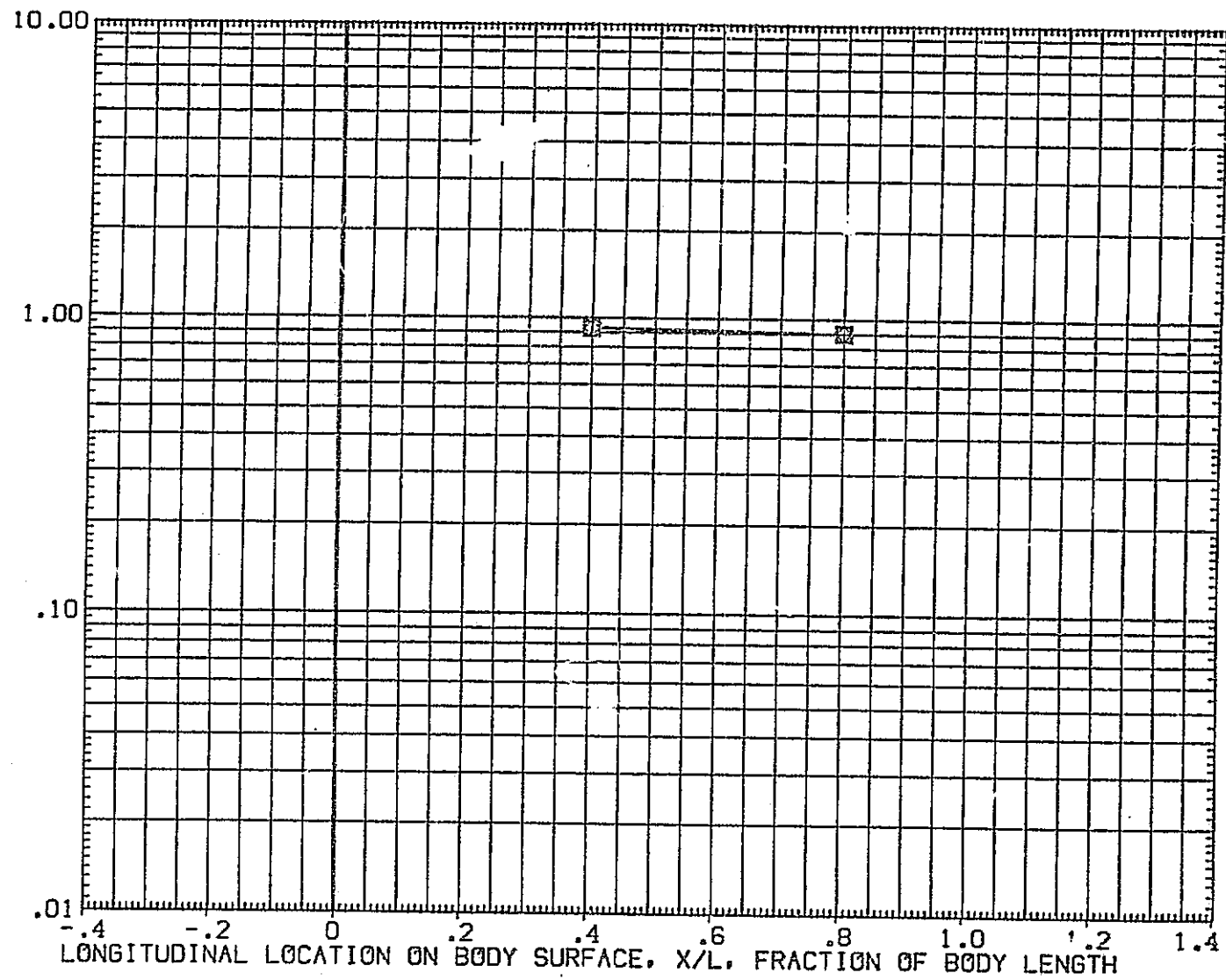
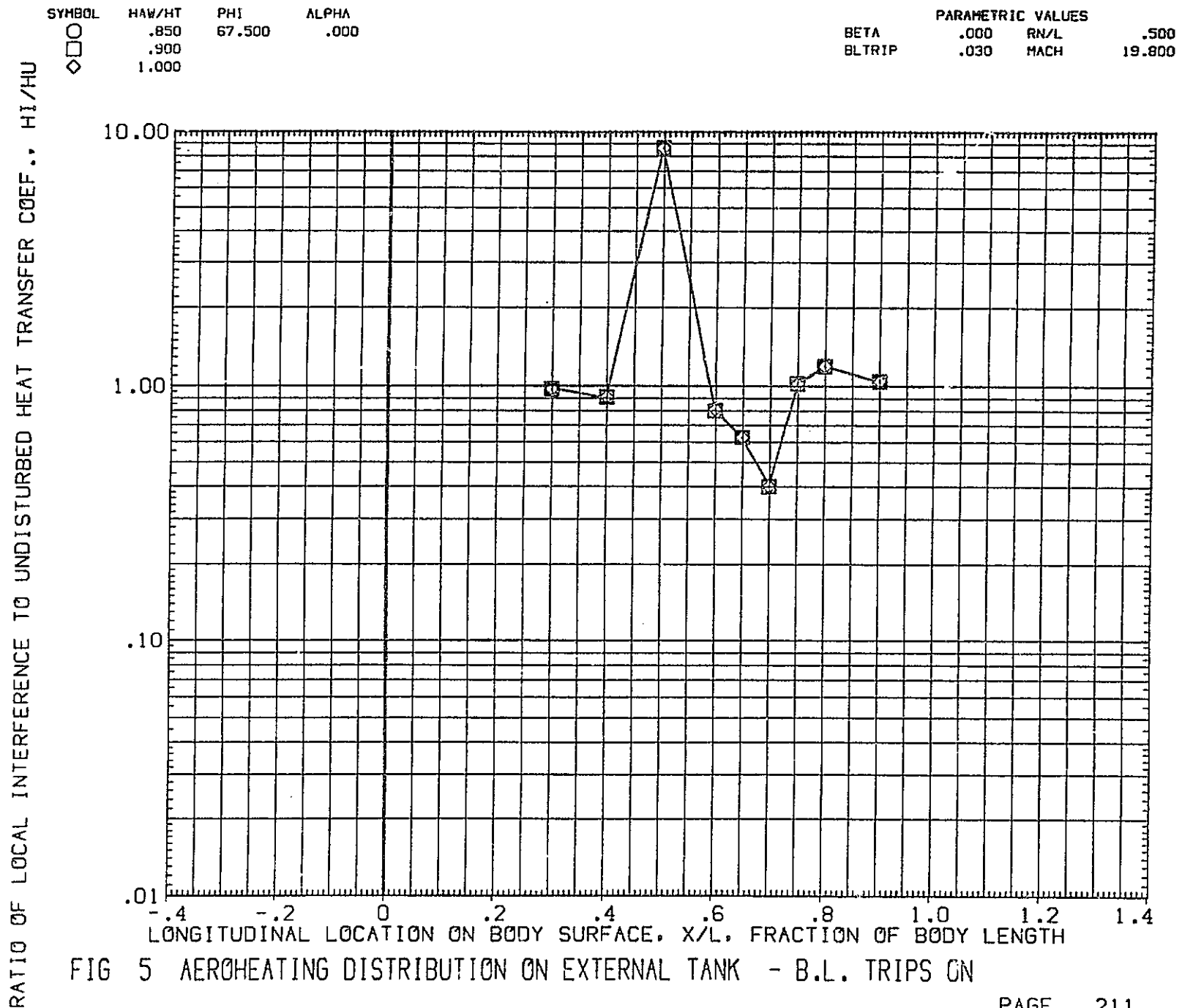


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON



IH19 RATIO (ORB+TANK)/TANK EXTERNAL TANK

(EQETO1)



RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $HI/HU$

IH19 RATIO (ORB+TANK)/TANK EXTERNAL TANK

(EQETO1)

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	112.500	.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	MACH 19.800

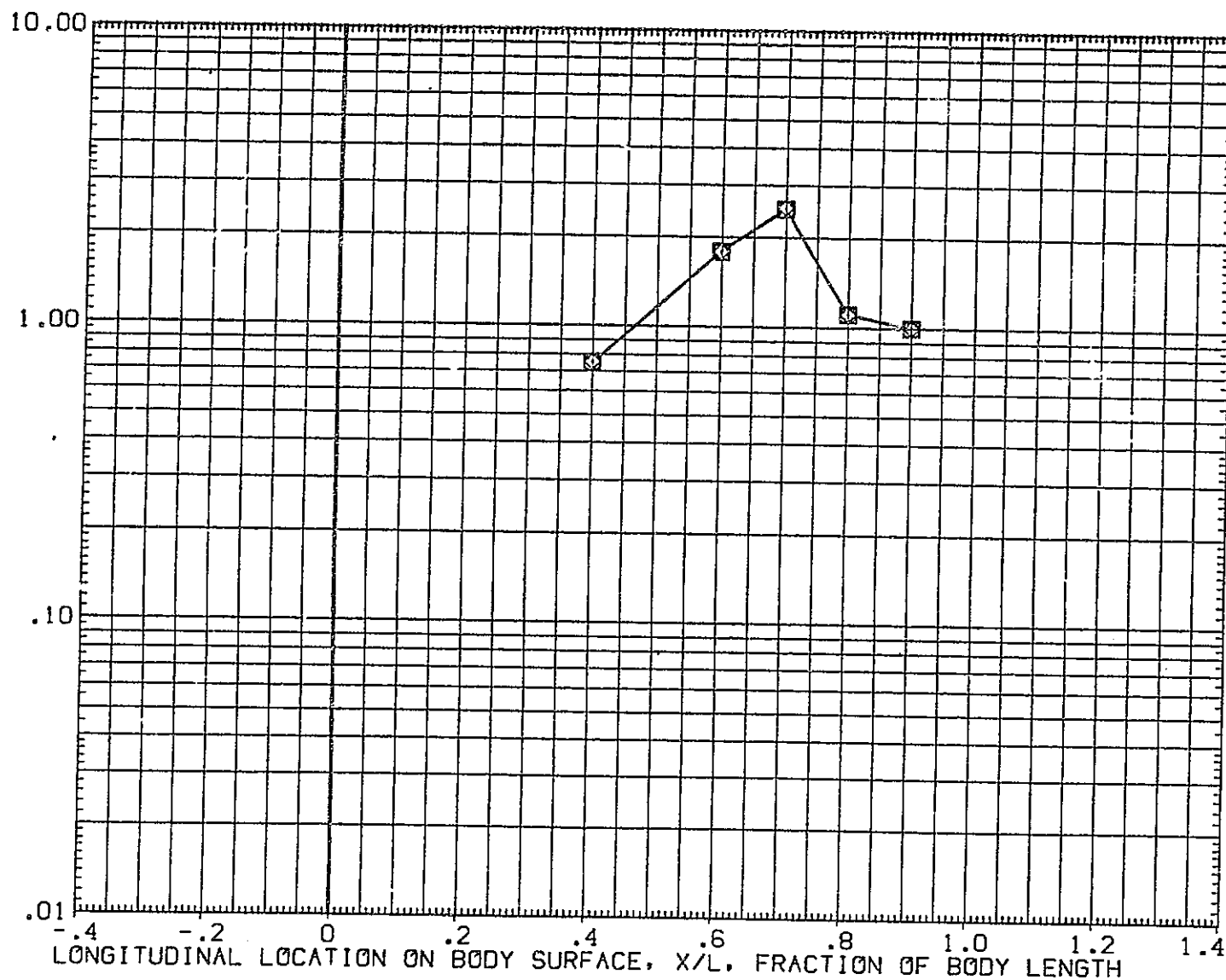


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	135.000	.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	MACH 19.800

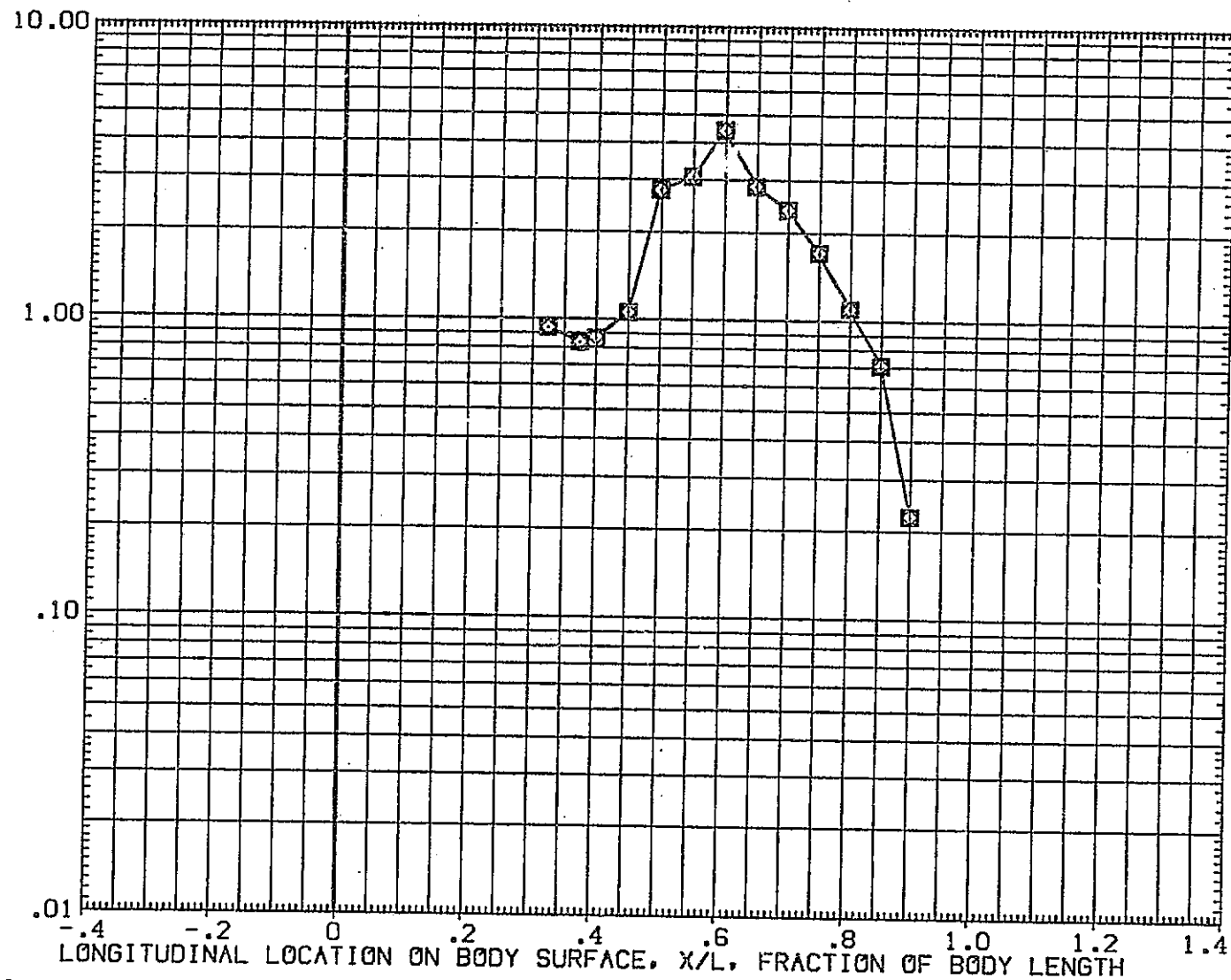
RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $H_i/H_u$ 

FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

## IH19 RATIO (ORB+TANK)/TANK EXTERNAL TANK

(EQETO1)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	157.500	.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L
BLTRIP	.030	MACH
		19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.. HI/HU

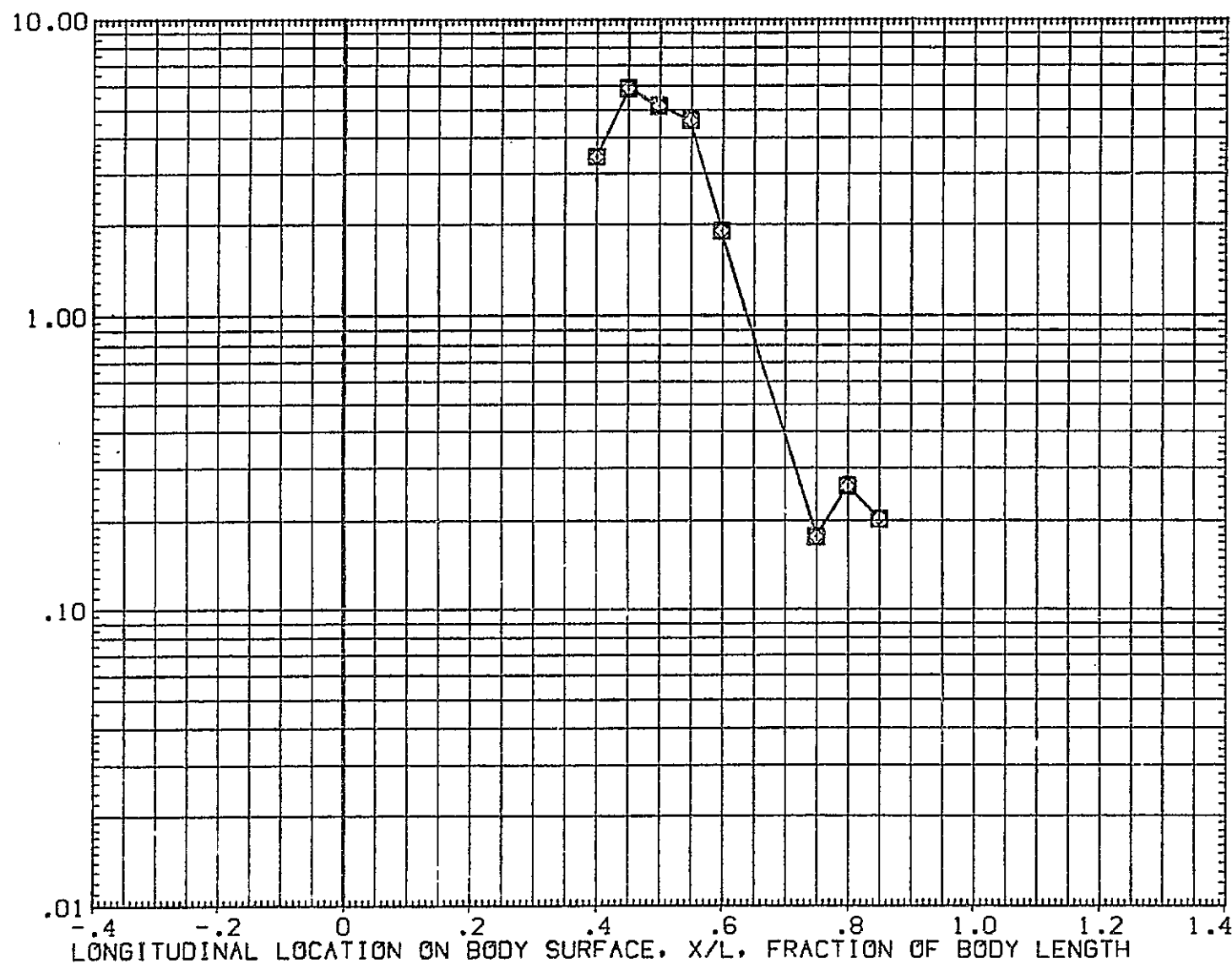


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

SYMBOL

HAW/HT

PHI

ALPHA

PARAMETRIC VALUES

BETA

RN/L

.500

BLTRIP

MACH

19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $HI/HU$ 

◇ □ ○

10.00

1.00

.10

.01

LONGITUDINAL LOCATION ON BODY SURFACE,  $X/L$ , FRACTION OF BODY LENGTH

FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

## IH19 RATIO (ORB+TANK)/TANK EXTERNAL TANK

(EQETO1)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	.000	5.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	MACH 19.800

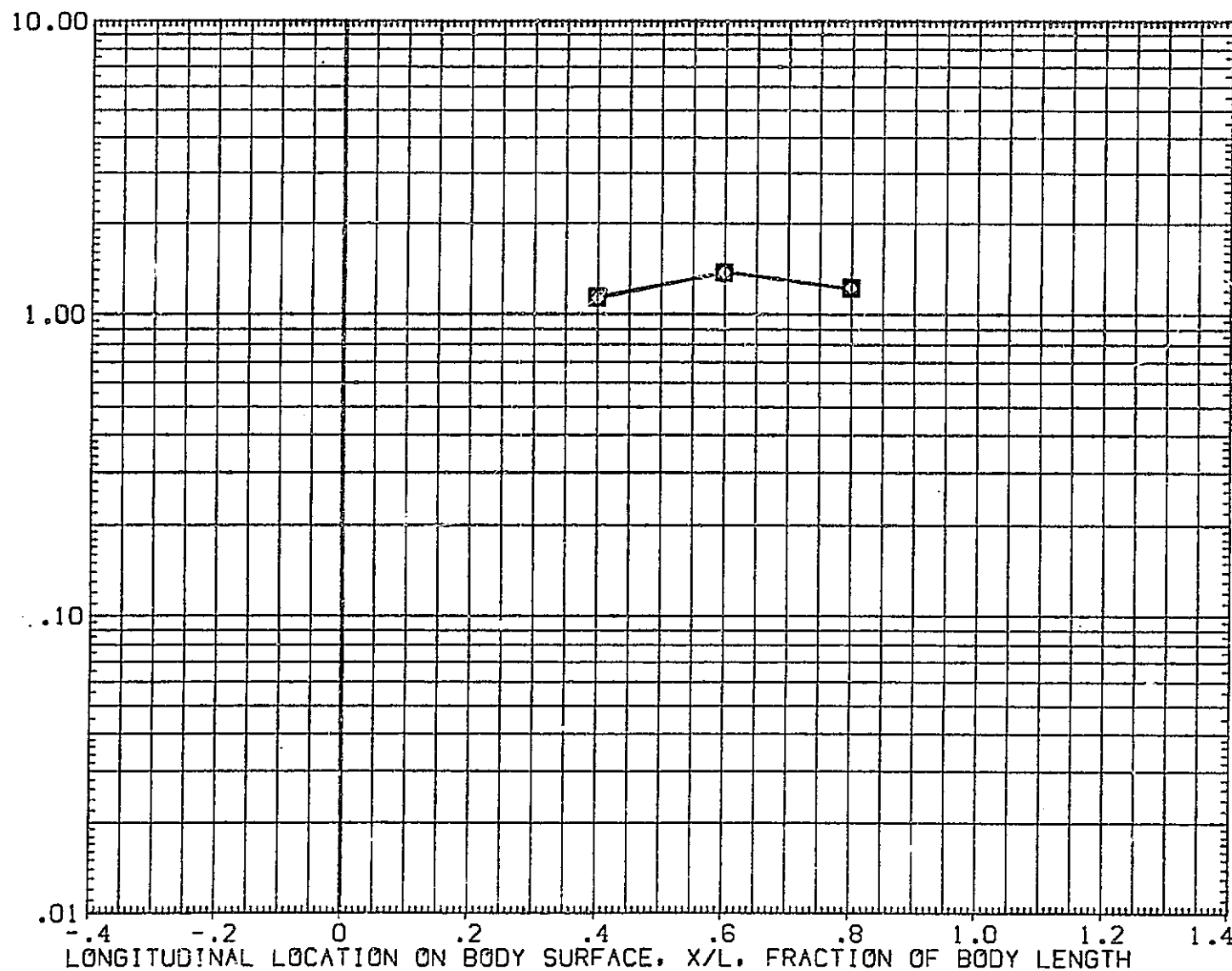
RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $HI/HU$ 

FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

SYMBOL

HAW/HT

PHI

ALPHA

PARAMETRIC VALUES

BETA

.000

RN/L

.500

BLTRIP

.030

MACH

19.600

$\diamond$   $\square$   $\square$   
 $\square$

.850  
 .900  
 1.000

43.000

5.000

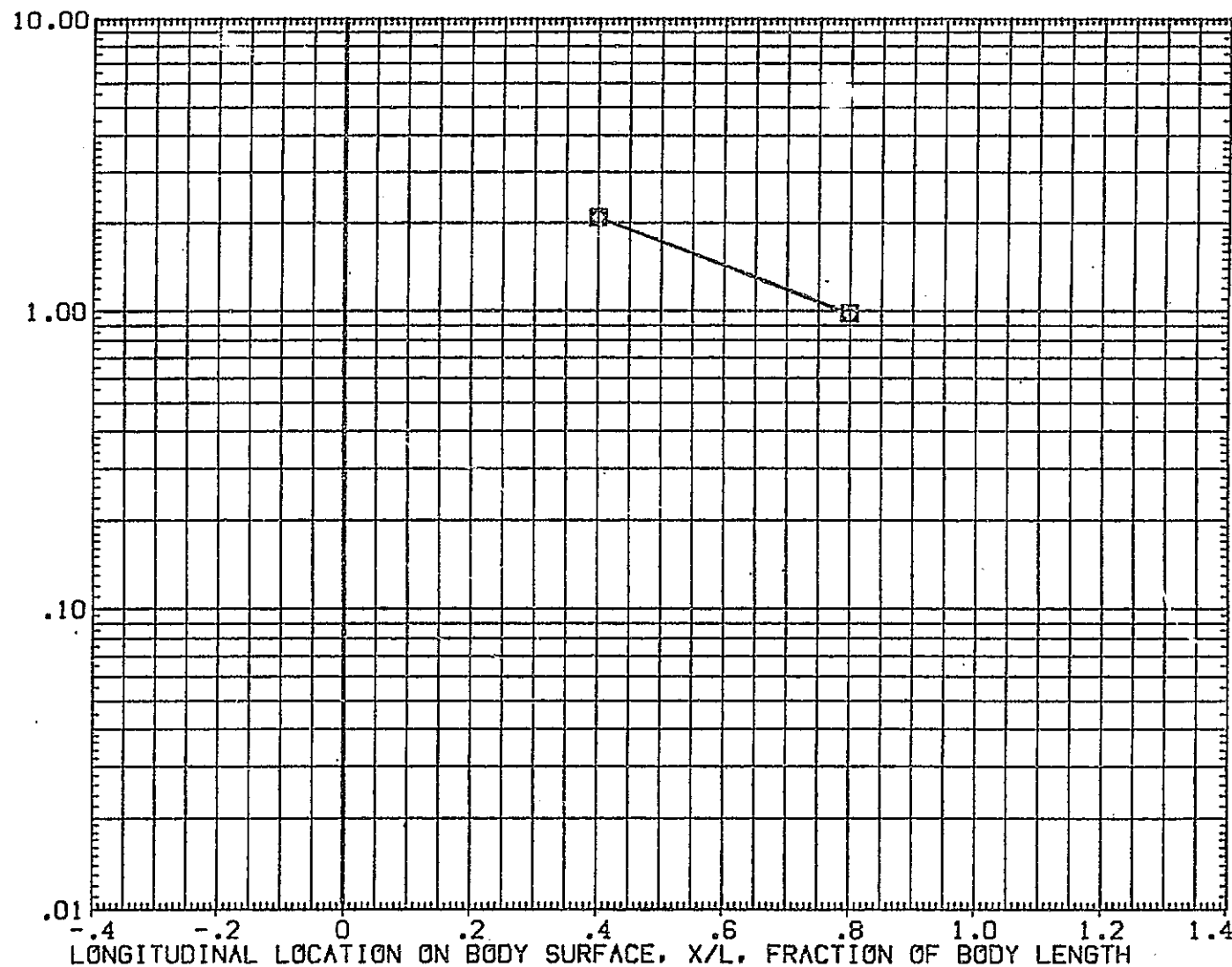
RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $HI/HU$ 

FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON



IH19 RATIO (ORB+TANK)/TANK EXTERNAL TANK

(EQETO1)

SYMBOL

HAW/HT  
.850  
.900  
1.000

PHI  
67.500

ALPHA  
5.000

BETA  
BLTRIP

PARAMETRIC VALUES

.000  
.030

RN/L  
MACH

.500  
19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $HI/HU$

◇ □ ○

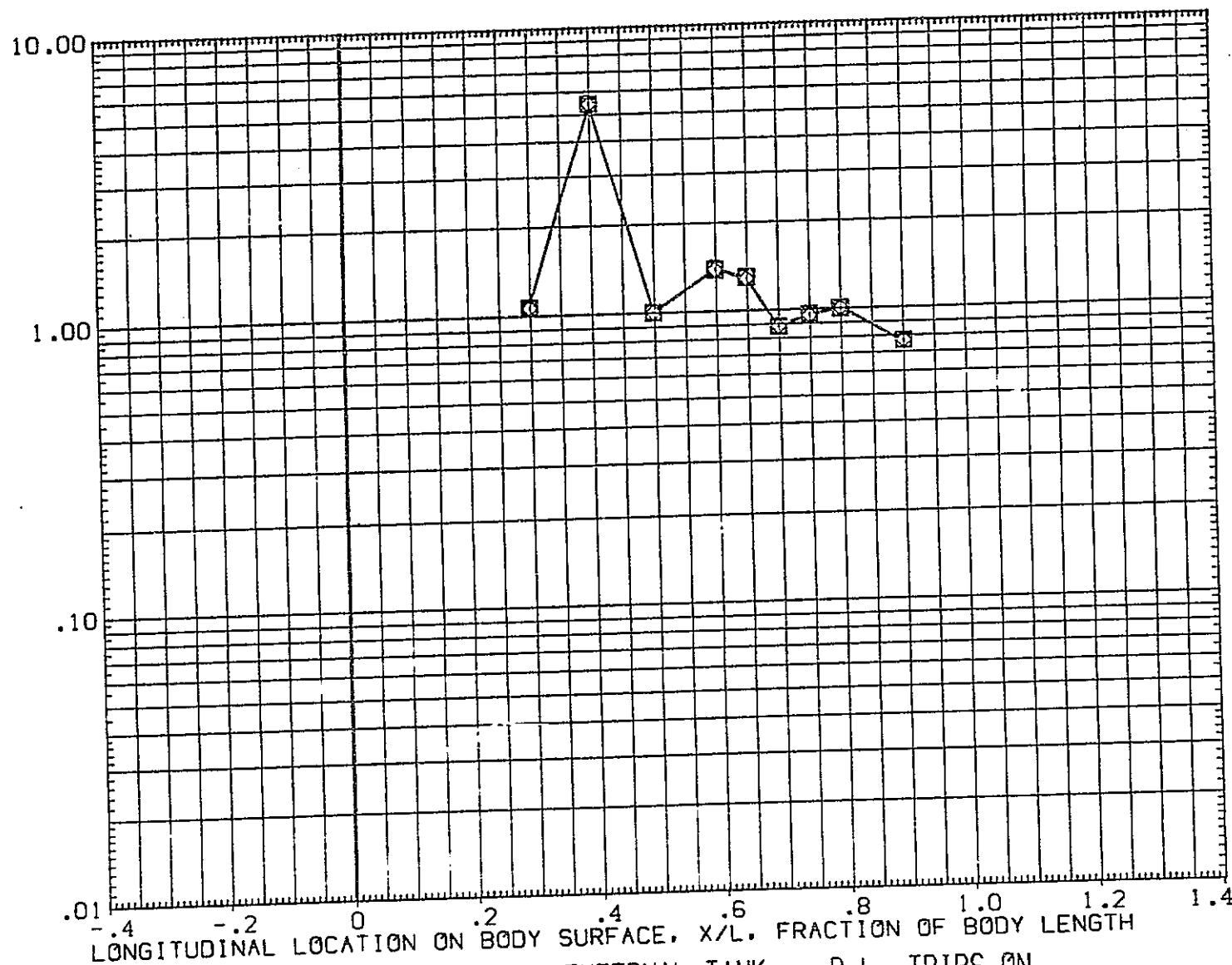


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON



SYMBOL	HAW/HT	PHI	ALPHA
□	.850	90.000	5.000
◇	.900		
	1.000		

PARAMETRIC VALUES		
BETA	.000	FN/L
BLTRIP	.030	MACH
		.500
		19.800

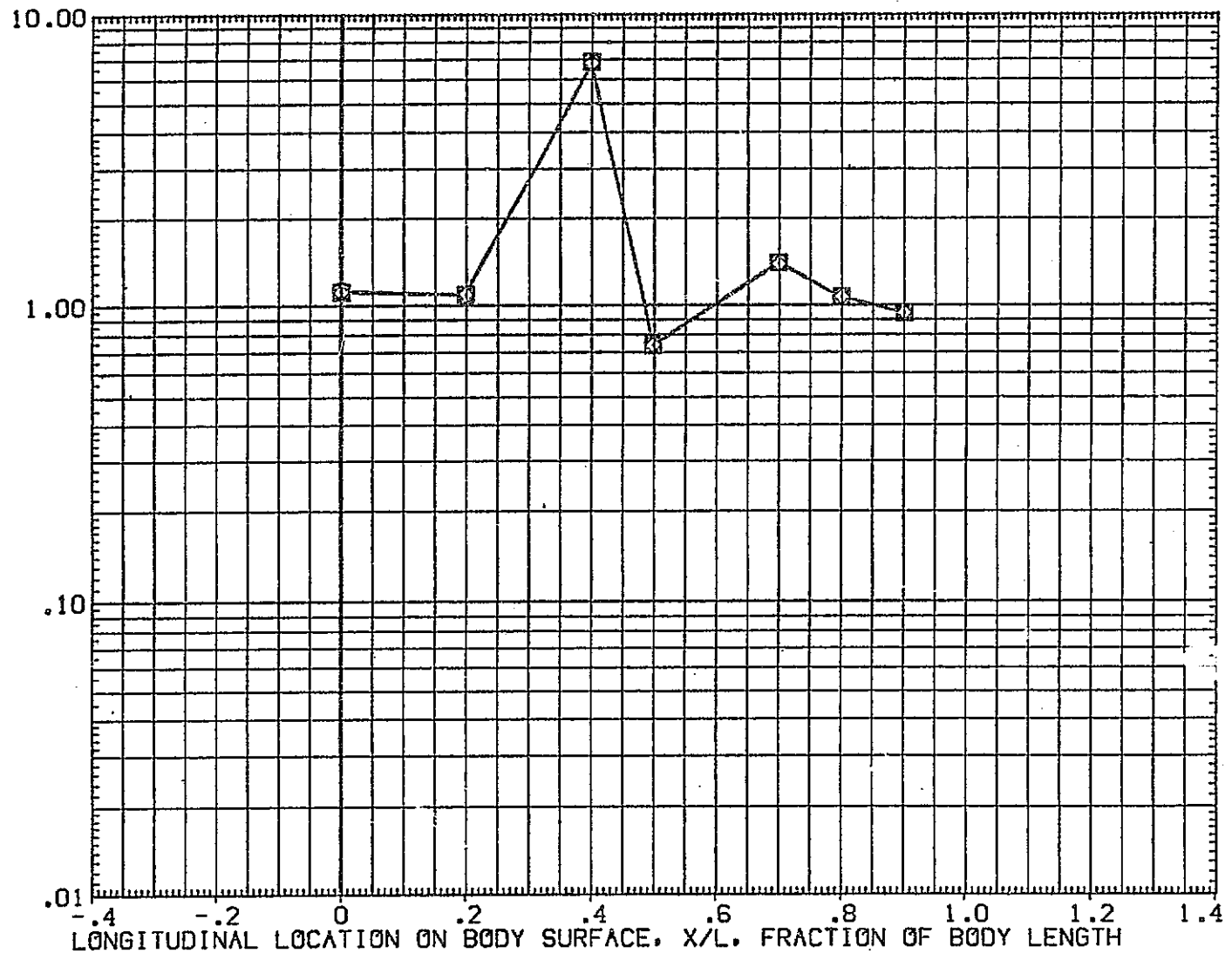
RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $H_i/H_u$ 

FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON



IH19 RATIO (ORB+TANK)/TANK EXTERNAL TANK

(EQETO1)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	112.500	5.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L
BLTRIP	.030	MACH
		19.800

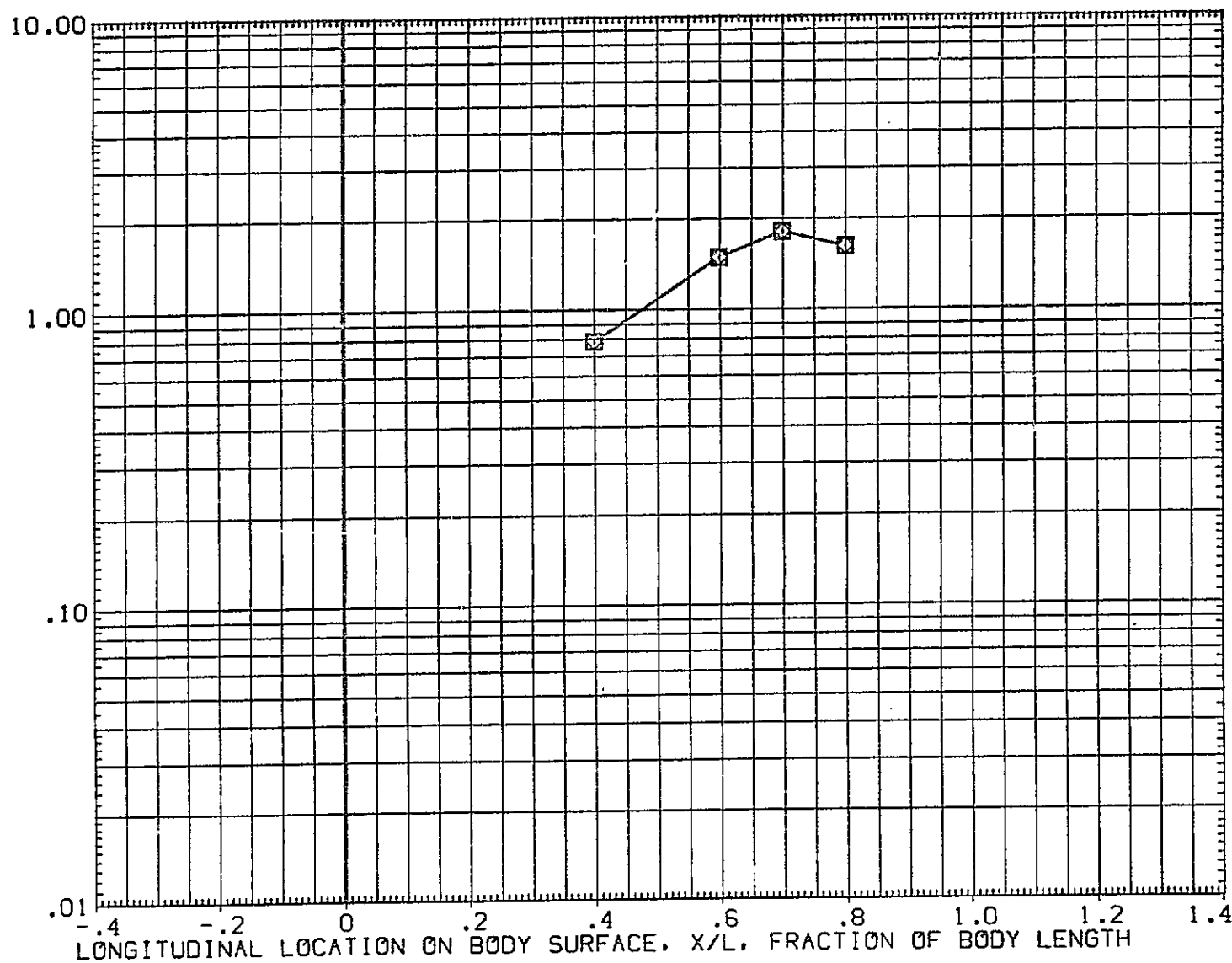
RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $HI/HU$ 

FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	135.000	5.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	MACH 19.600

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.. HI/HU

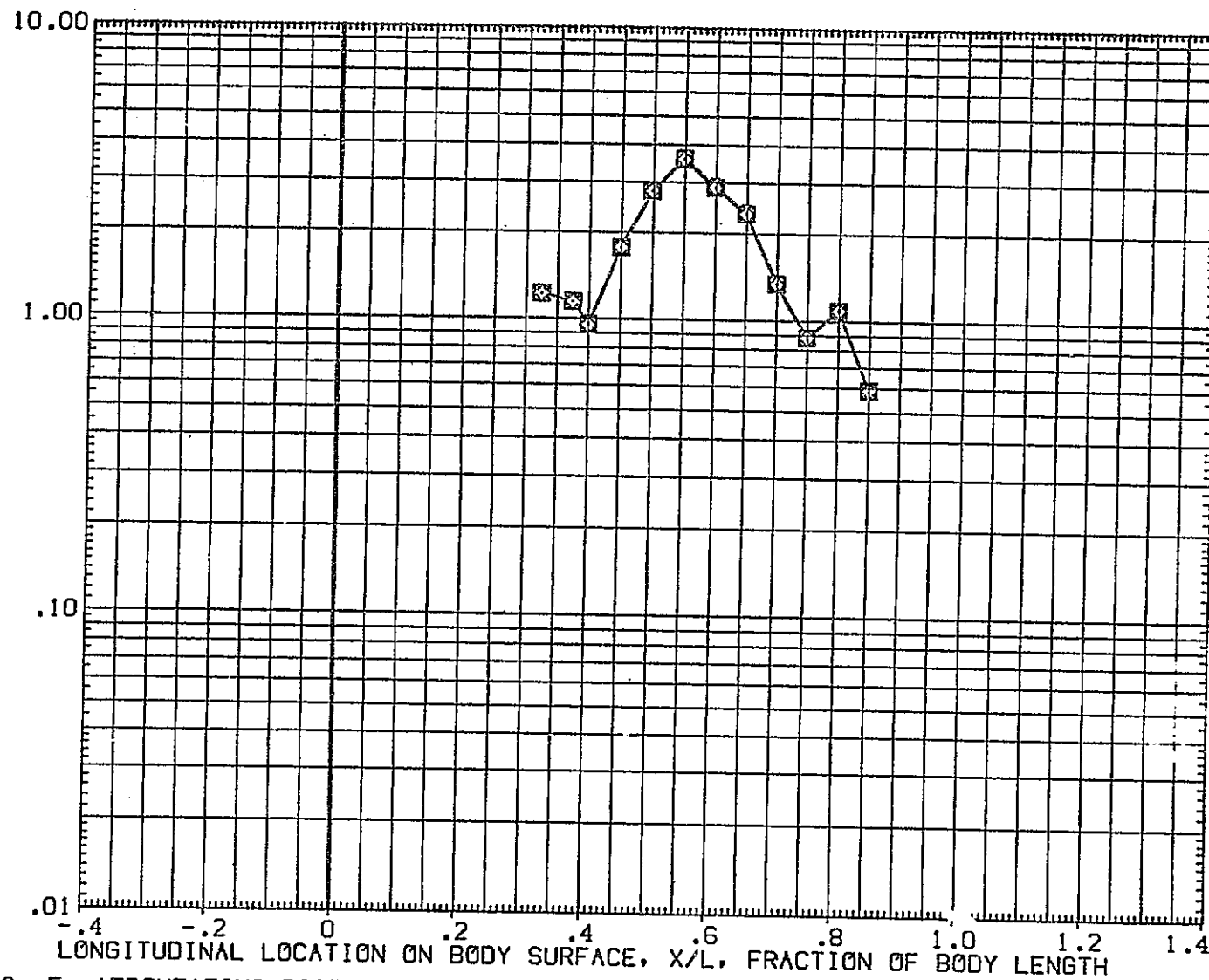


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

# IH19 RATIO (ORB+TANK)/TANK EXTERNAL TANK

(EQETO1)

SYMBOL	HAW/HT	PHI	ALPHA
◇	.850	157.500	5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	HACH 19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $H_i/H_u$

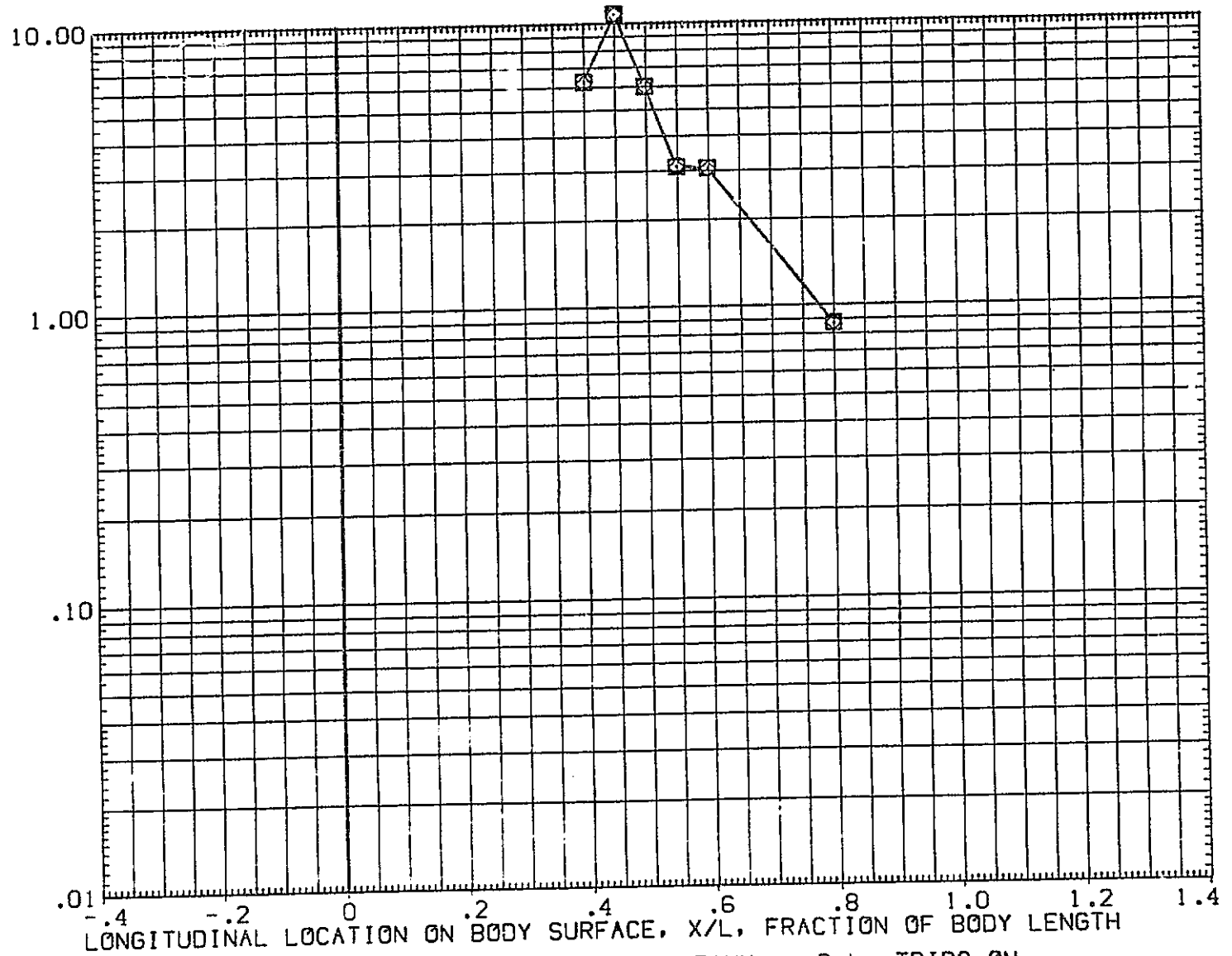


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

SYMBOL	HAW/HT	PHI	ALPHA
○	.850	180.000	5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L
BLTRIP	.030	HACH
		1.500

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.. HI/HU

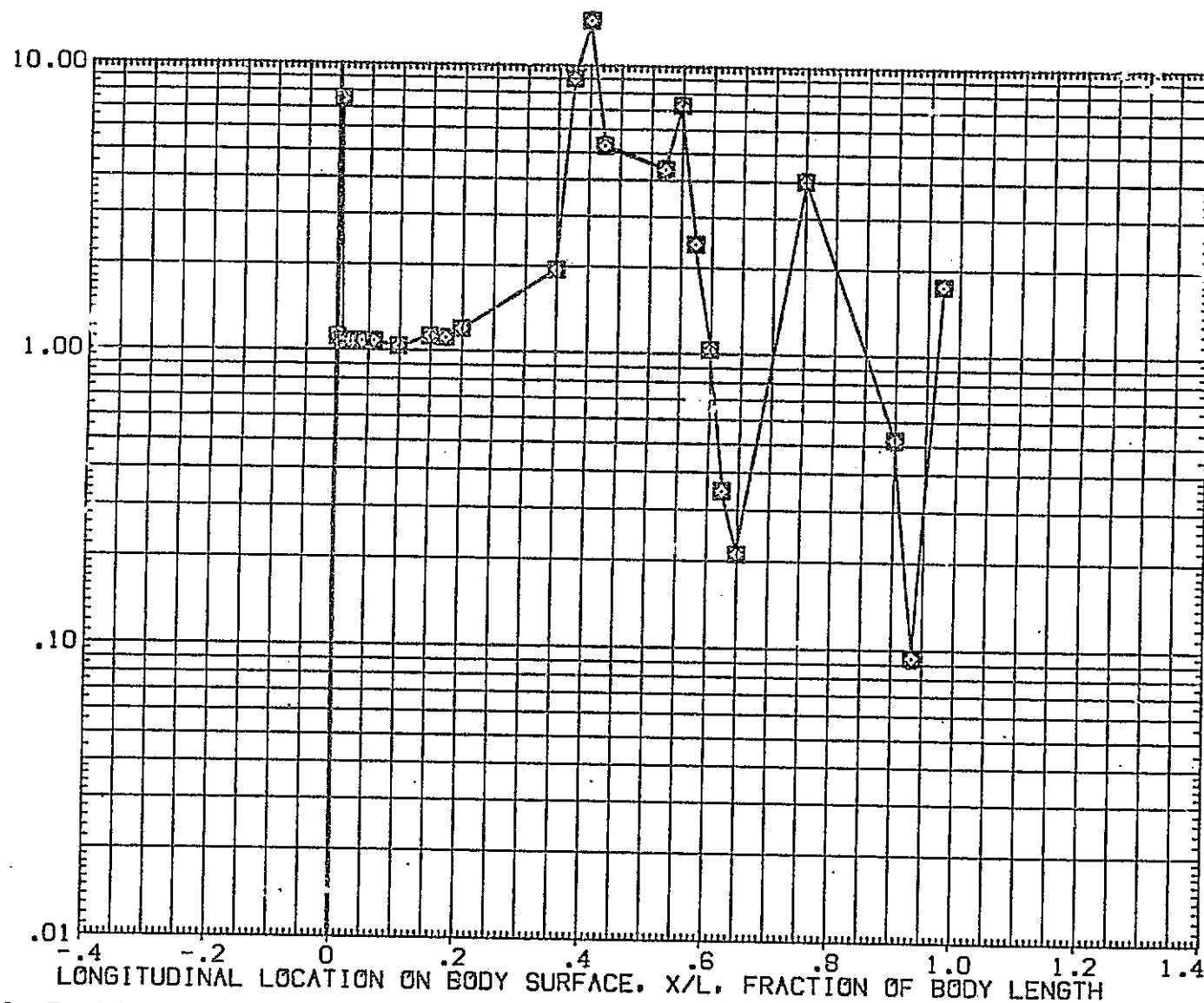


FIG 5 AEROHEATING DISTRIBUTION ON EXTERNAL TANK - B.L. TRIPS ON

IH19 B22C7F5M4V7W111

ORBITER LOWER FUSELAGE (SQEB06)

SYMBOL	HAW/HT	Y(BP)	ALPHA
◇	.850	.000	-10.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L
BLTRIP	.000	MACH
		.500
		19.800

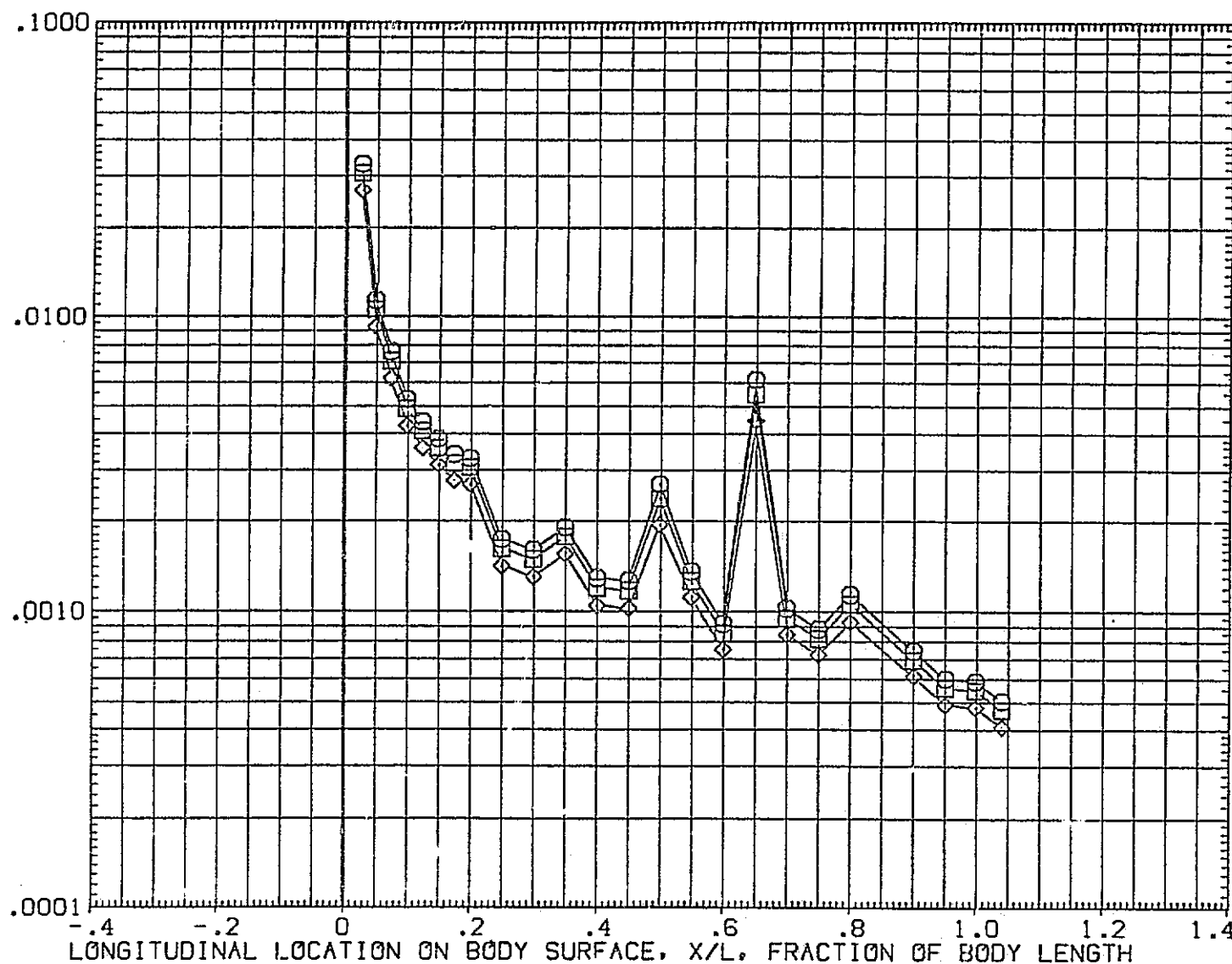
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $h/h_{REF}$ 

FIG 6 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS OFF

SYMBOL	HAW/HT	Y(BP)	ALPHA
○	.850	117.000	-10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

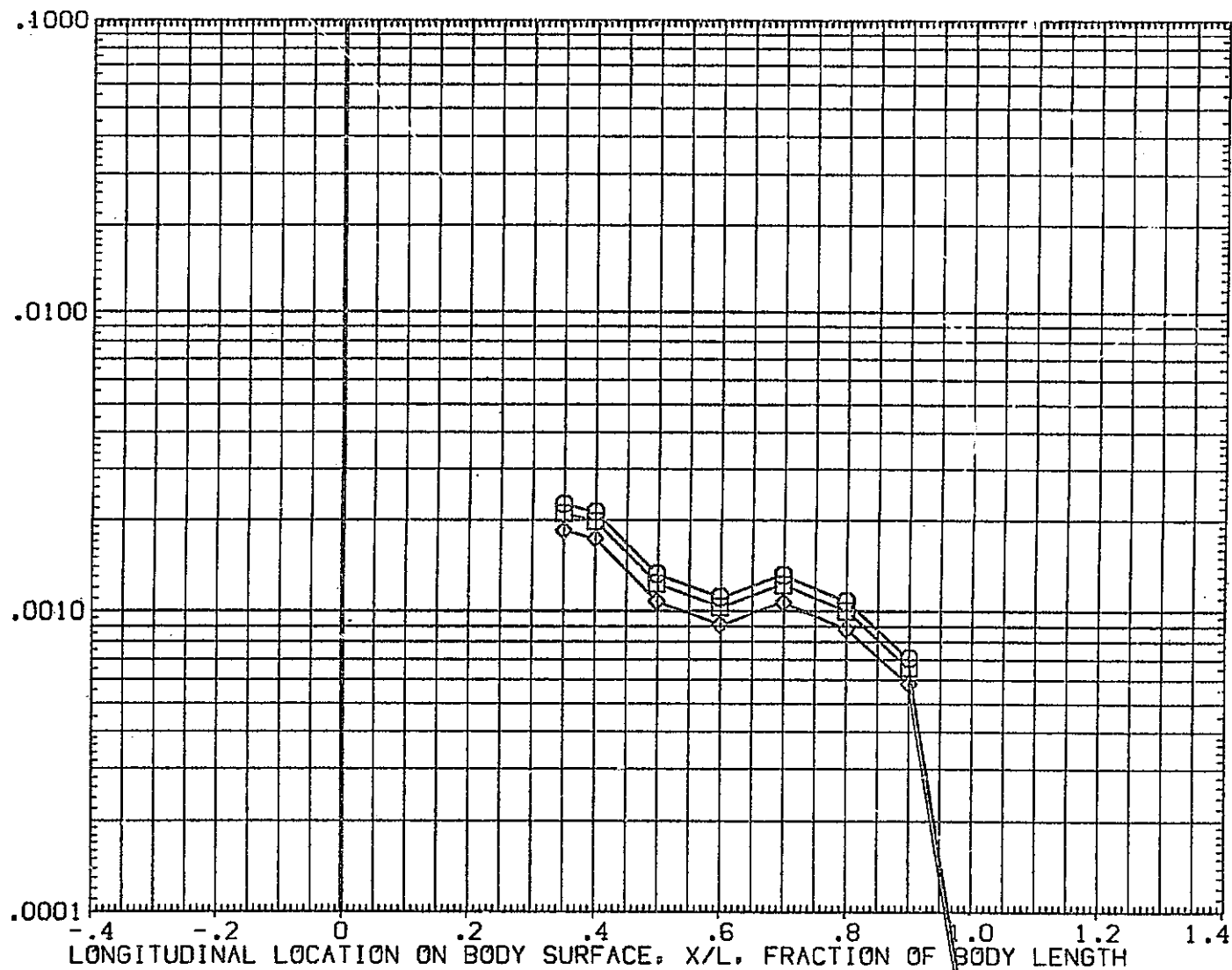
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 6 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS OFF

IH19 B22C7F5M4V7W111

ORBITER LOWER FUSELAGE (SQEB06)

SYMBOL	HAW/HT	Y(BP)	ALPHA
□	.850	.000	-5.000
◇	.000		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	MACH	19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

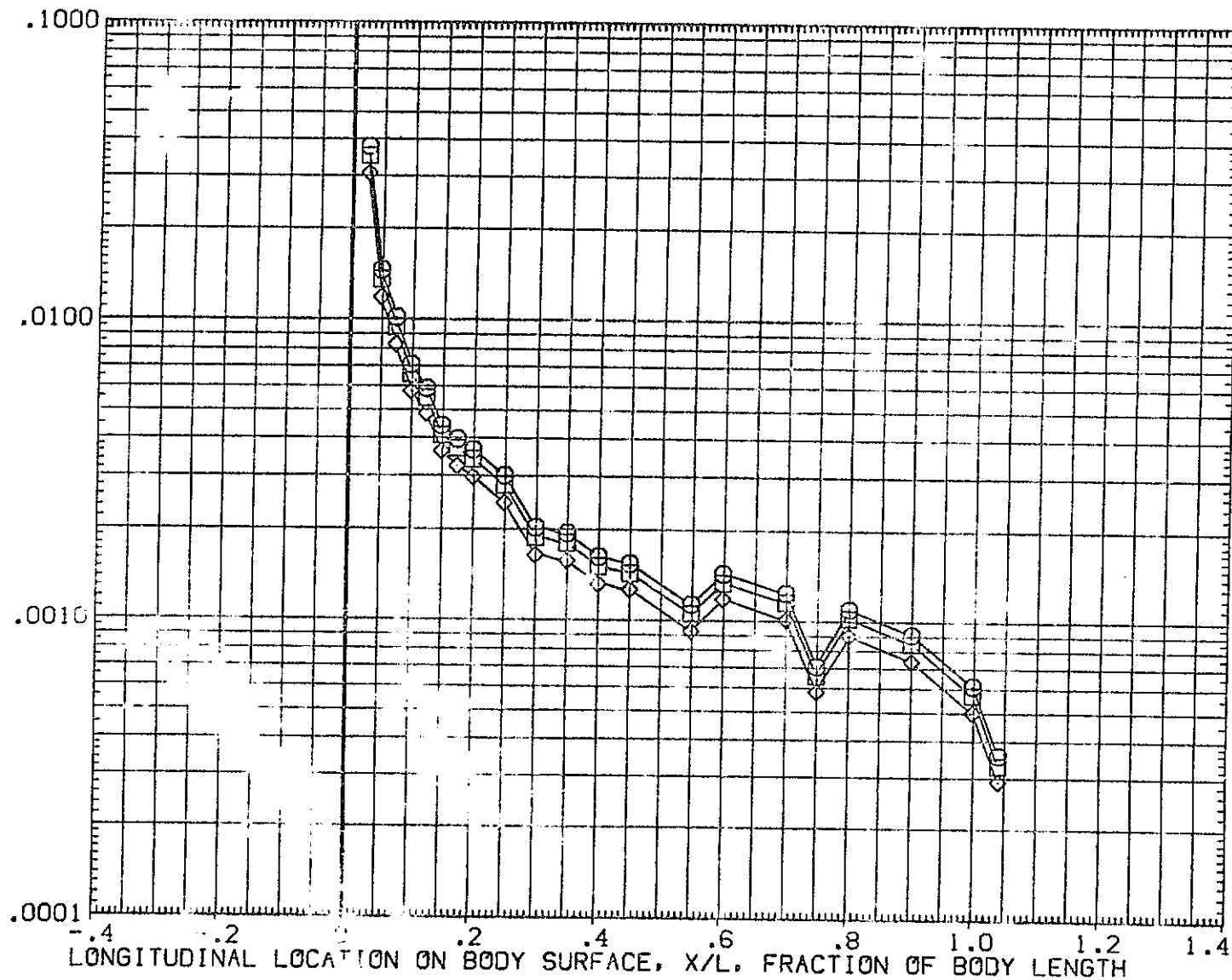


FIG 6 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS OFF



SYMBOL	HAW/HT	Y(BP)	ALPHA
◇	.850	117.000	-5.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS. H/HREF

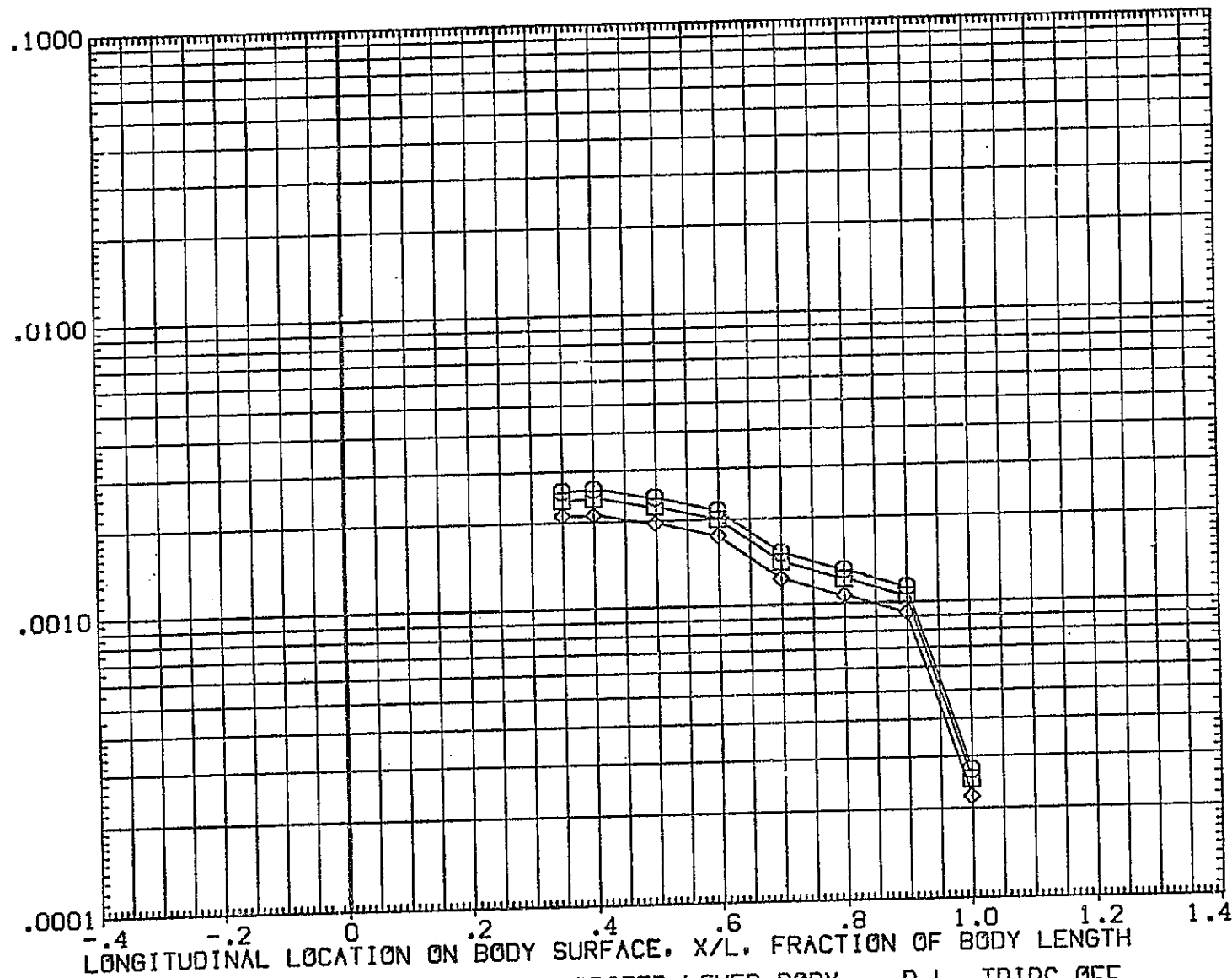


FIG 6 AERODYNAMIC DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS OFF

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

IH19 B22C7F5M4V7W111

ORBITER LOWER FUSELAGE (SQEB06)

SYMBOL	HAW/HT	Y(BP)	ALPHA
○	.850	.000	.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

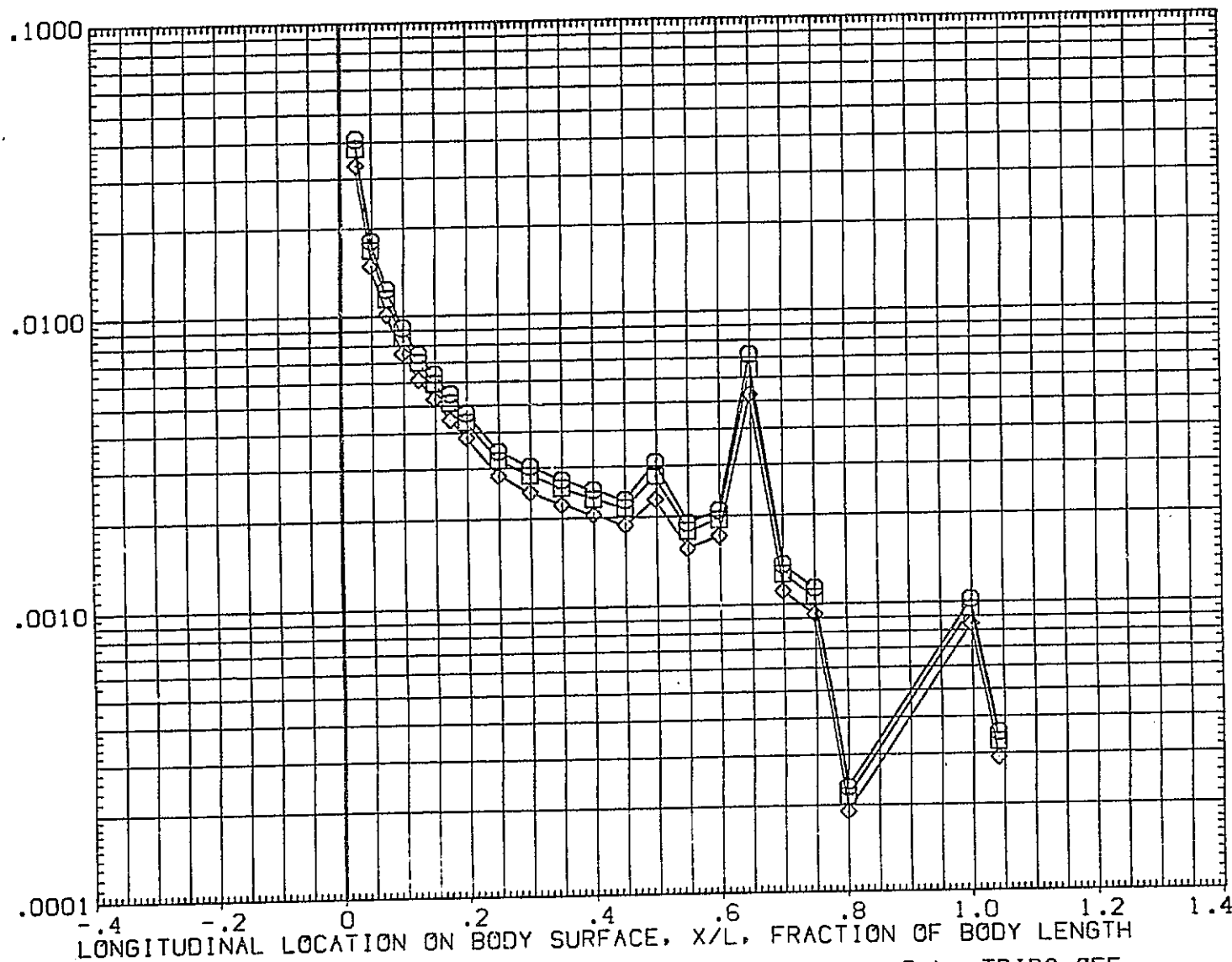


FIG 6 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS OFF

IH19 B22C7F5M4V7W111

ORBITER LOWER FUSELAGE (SQEB06)

SYMBOL	HAW/HT	Y(BP)	ALPHA
◇	.850	117.000	.000
□	.900		
○	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	MACH	19.800

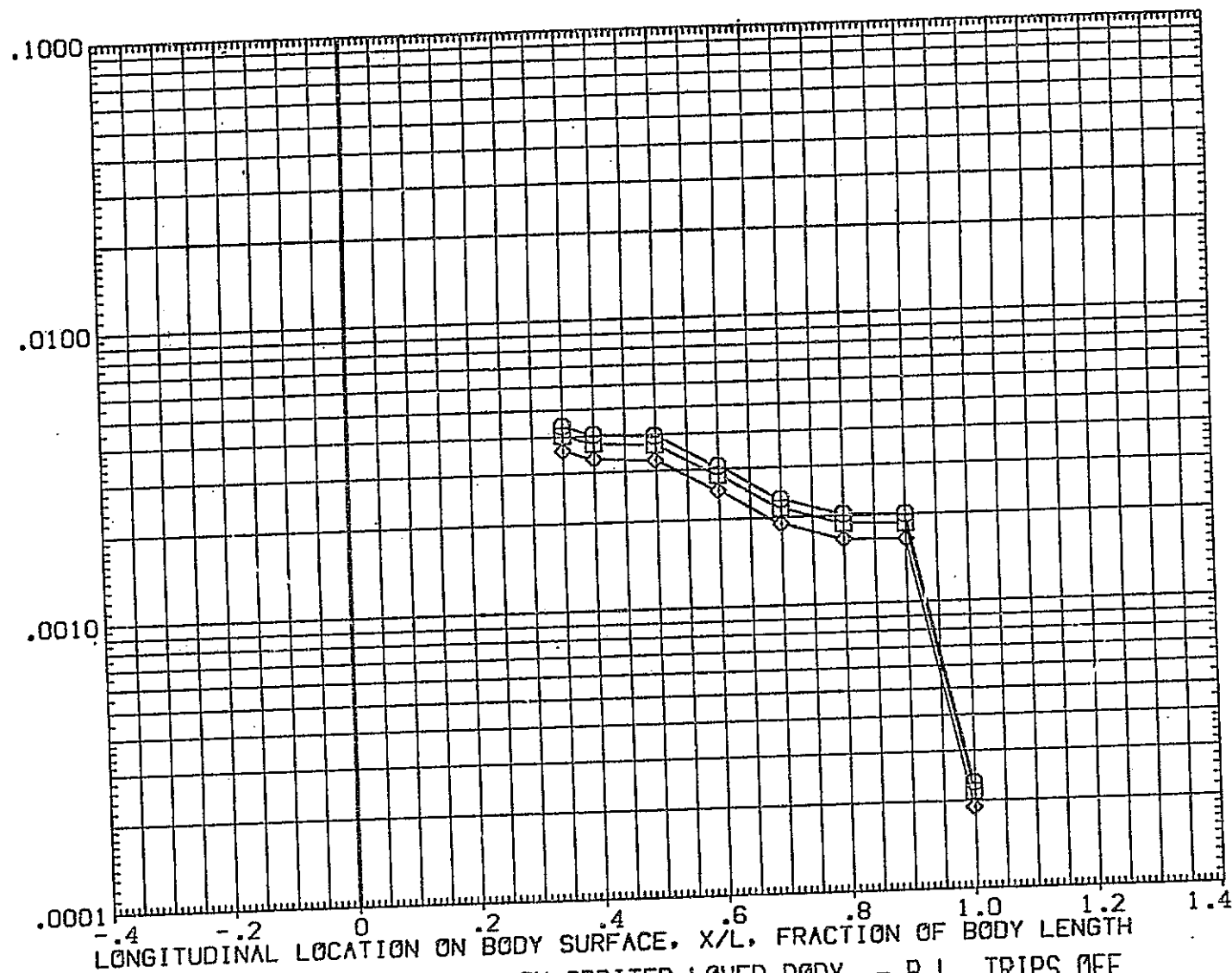
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 6 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS OFF

IH19 B22C7F5M4V7W111

ORBITER LOWER FUSELAGE (SQEB06)

SYMBOL	HAW/HT	Y(BP)	ALPHA
◇	.850	.000	5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L
BLTRIP	.000	MACH
		.500
		19.800

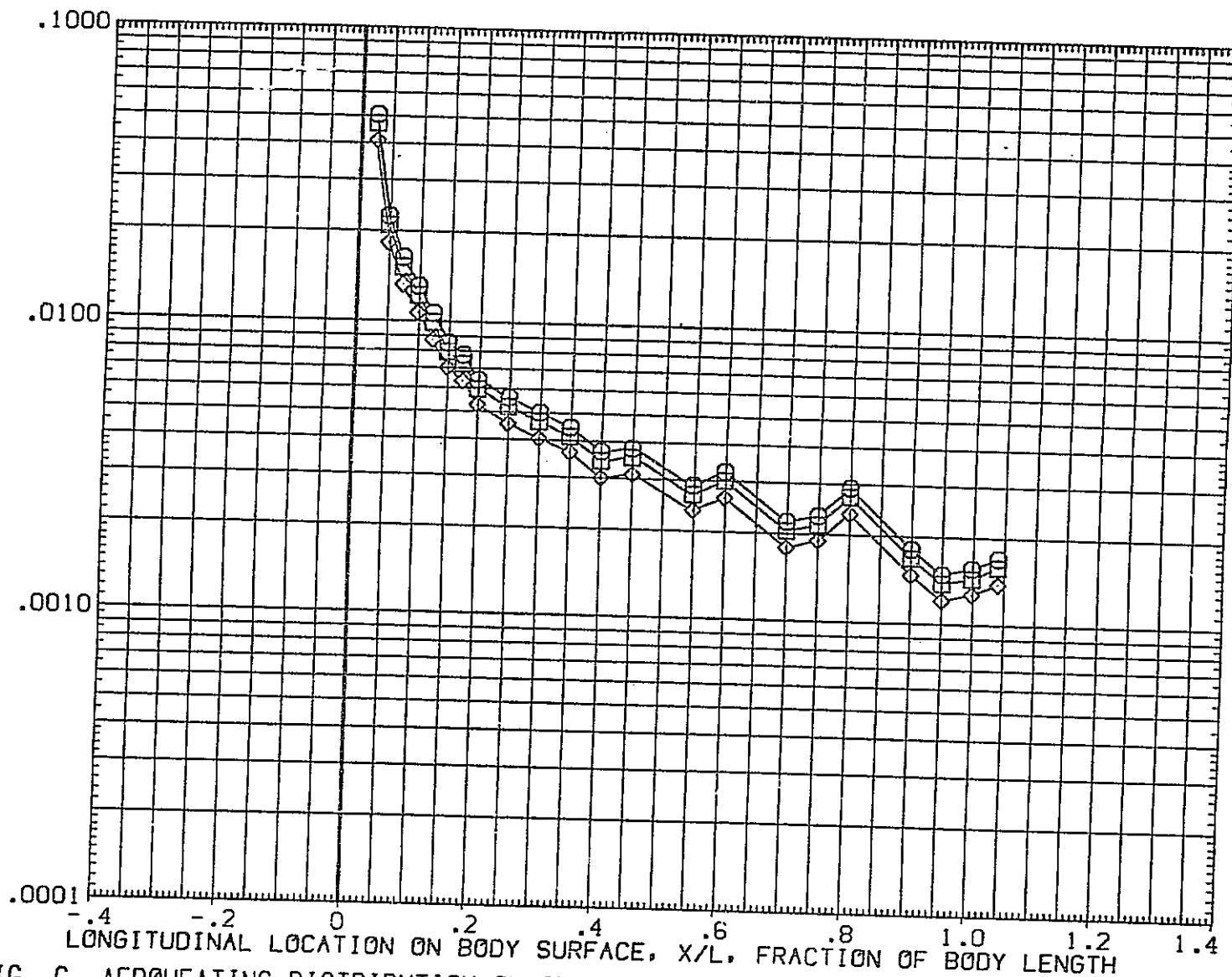
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 6 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS OFF

SYMBOL	HAW/HT	Y(CP)	ALPHA
◇	.850	117.000	5.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RM/L
BLTRIP	.000	HACH
		19.600

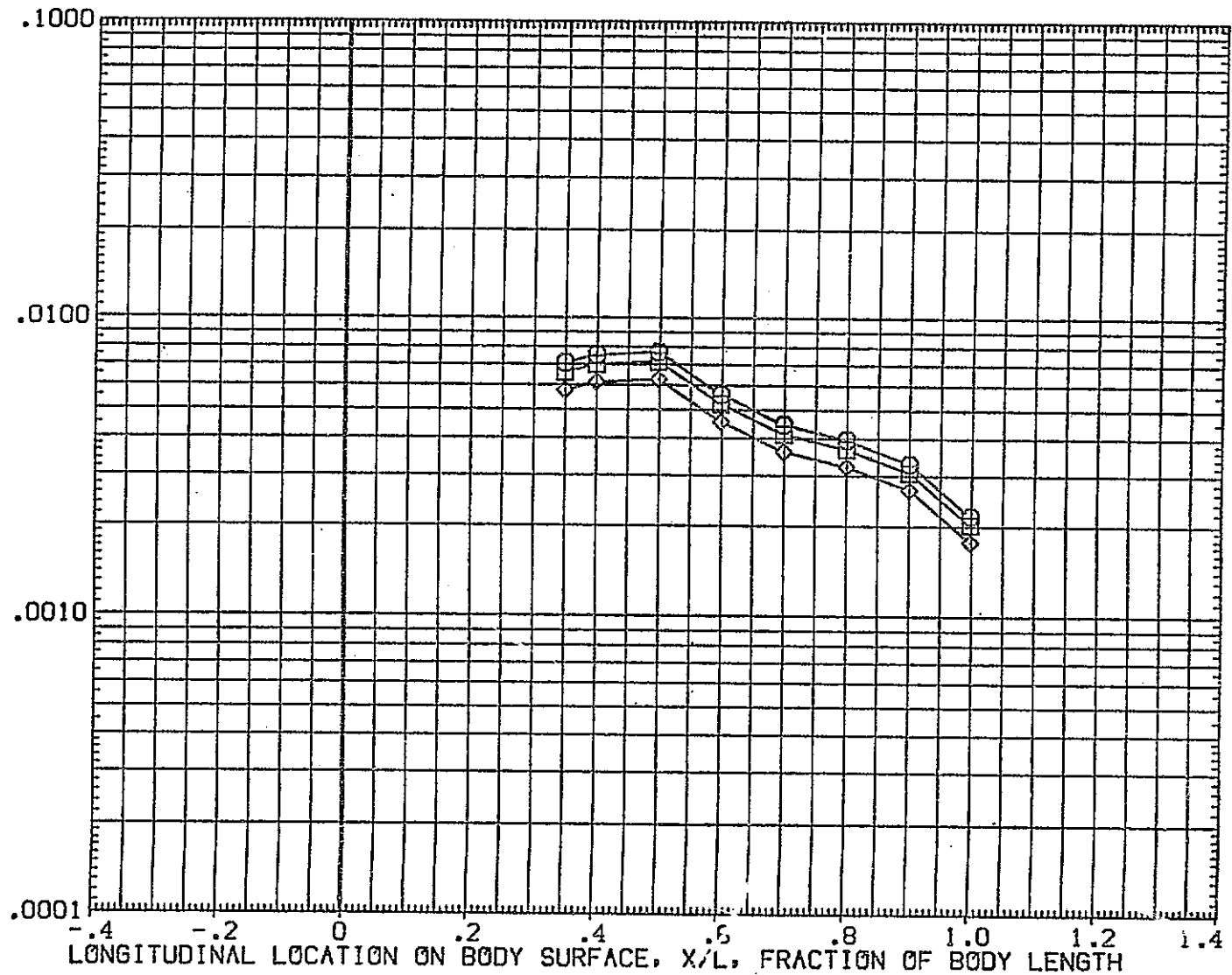
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $q/q_{REF}$ 

FIG 6 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS OFF

IH19 B22C7F5M4V7W111

ORBITER LOWER FUSELAGE (SQEB06)

SYMBOL

HAW/HT

Y(BP)

ALPHA

BETA

PARAMETRIC VALUES

BLTRIP

.000

RN/L

.500

.000

MACH

19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

◇ □ ○

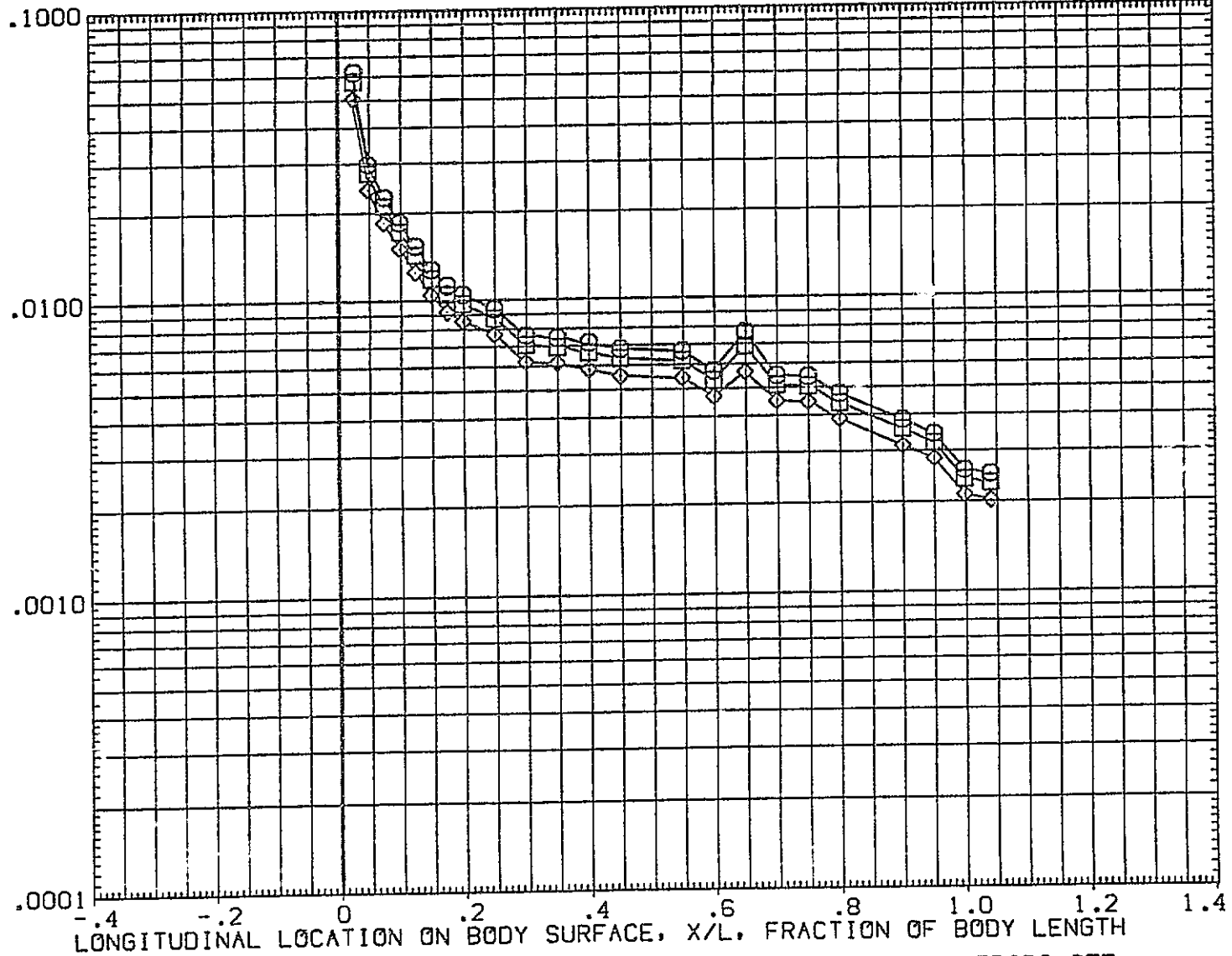


FIG 6 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS OFF

SYMBOL	HAW/HT	Y(BP)	ALPHA
○	.850	117.000	10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	HACH 19.800

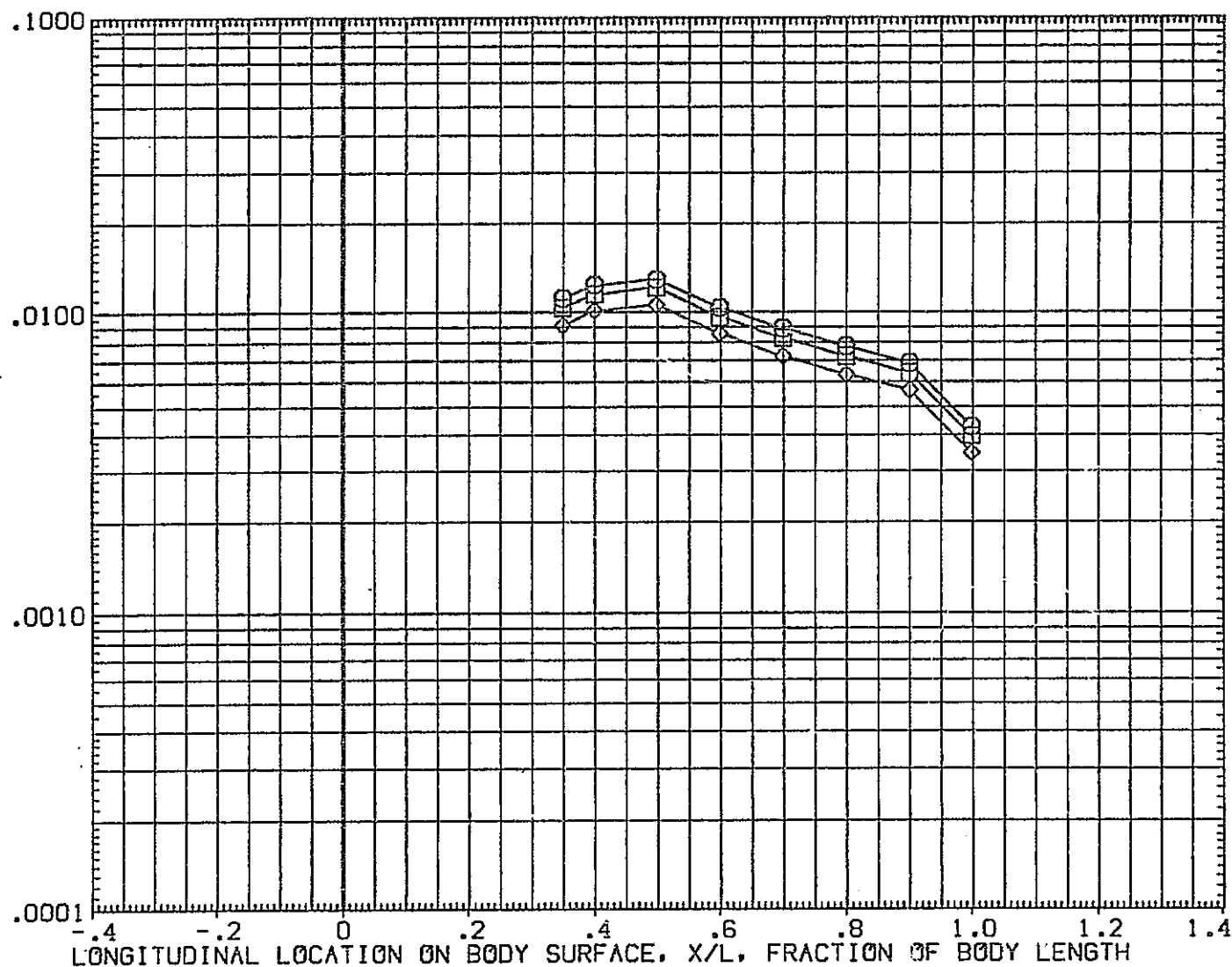
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 6 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS OFF

# 1H19 B22C7F5M4V7W111 T8 ORBITER LOWER FUSELAGE (SQEB03)

SYMBOL HAW/HT Y(BP) ALPHA  
 ◇ □ ○ .850 .000 -10.000  
 .900  
 1.000

PARAMETRIC VALUES  
 BETA .000 RN/L .500  
 BLTRIP .000 DELTAH .175  
 MACH 19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$

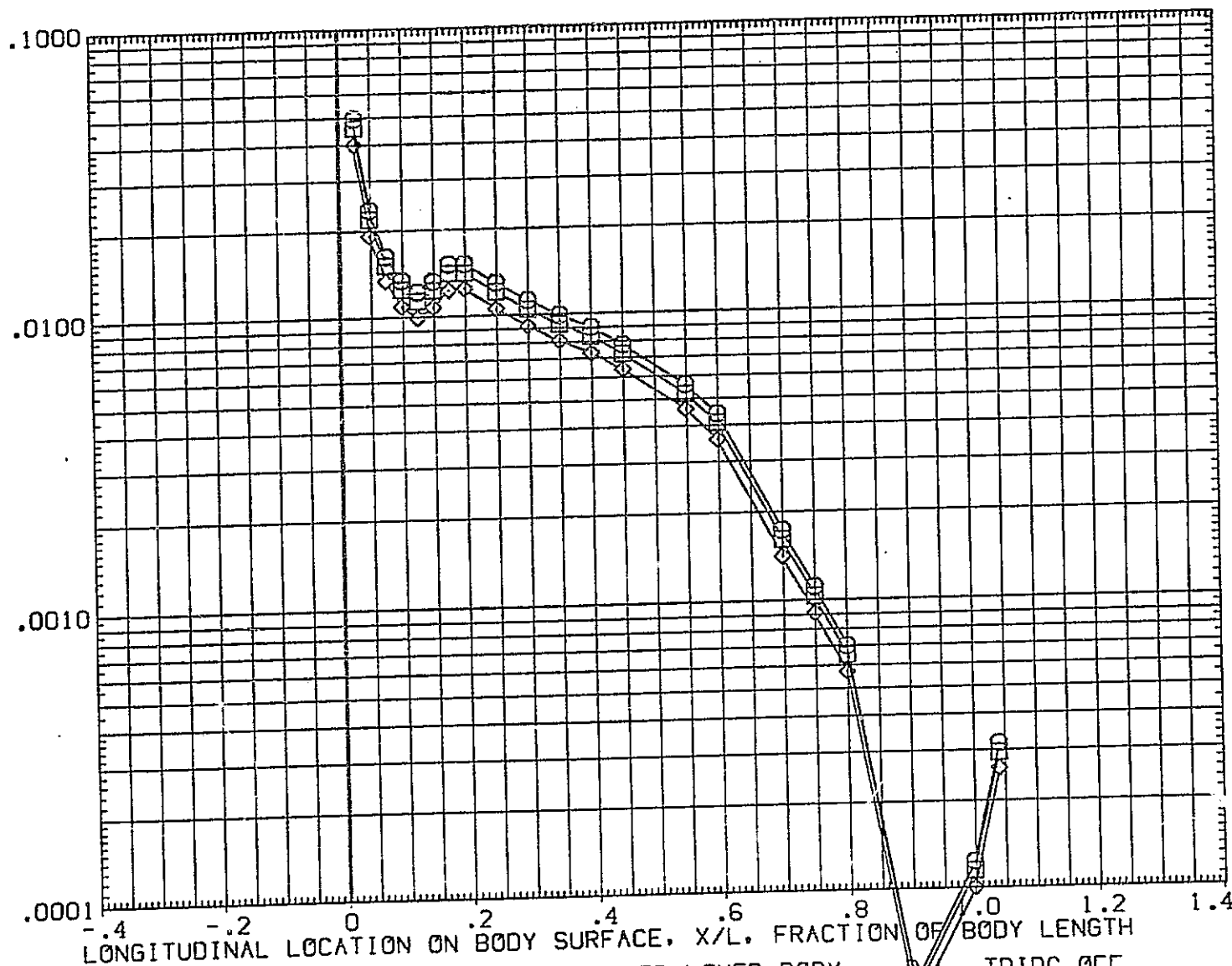


FIG 6 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY -  $H/H_{REF}$  TRIPS OFF



SYMBOL	HAW/HT	Y(BP)	ALPHA
○	.850	117.000	-10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RH/L .500
BLTRIP	.000	DELTAH .175
MACH	19.800	

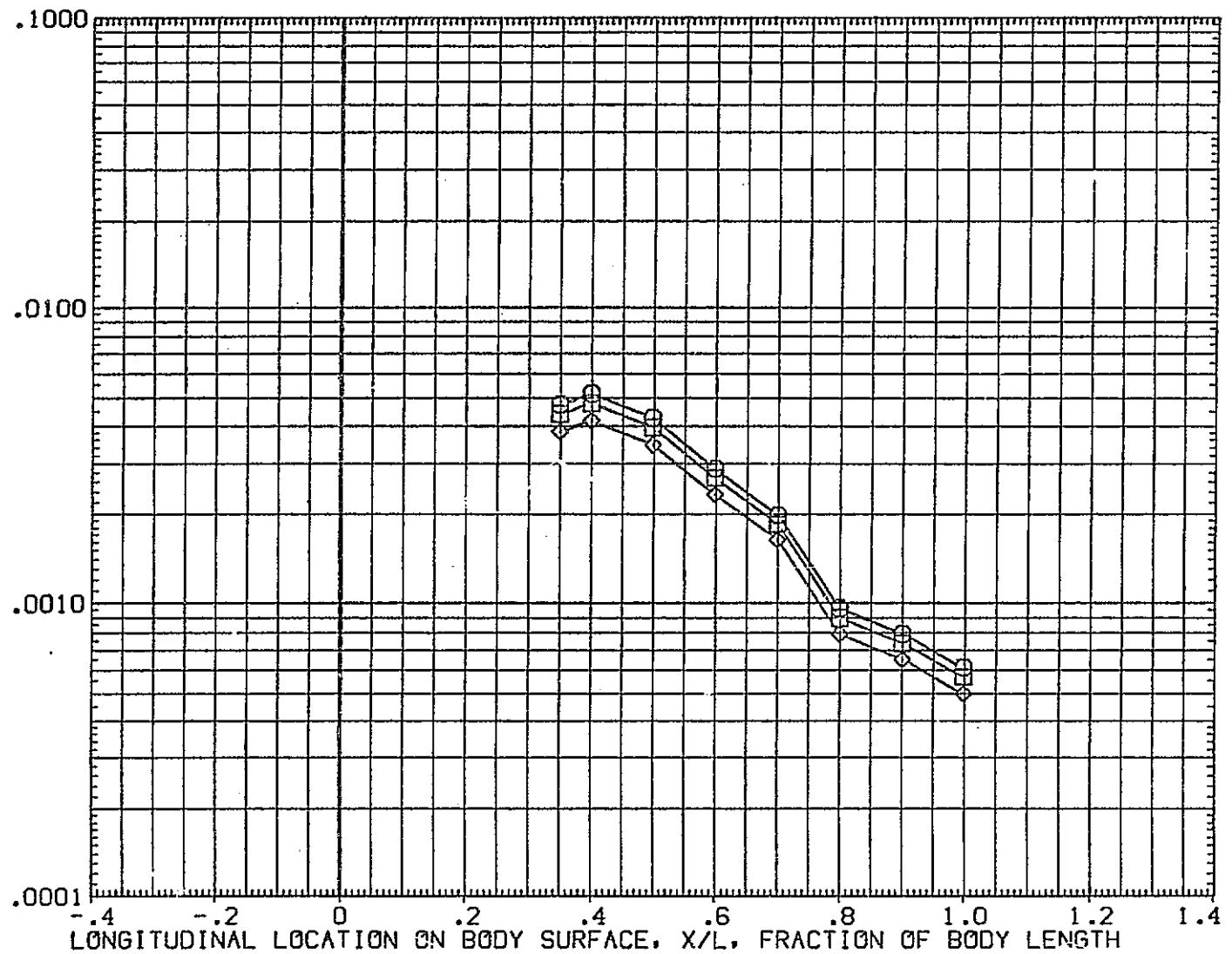
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 6 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS OFF

IH19 B22C7F5M4V7W111 T8 ORBITER LOWER FUSELAGE (SQEB03)

SYMBOL	HAW/HT	Y(BP)	ALPHA
○	.850	.000	-5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	DELTAH	.175
MACH	19.800		

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

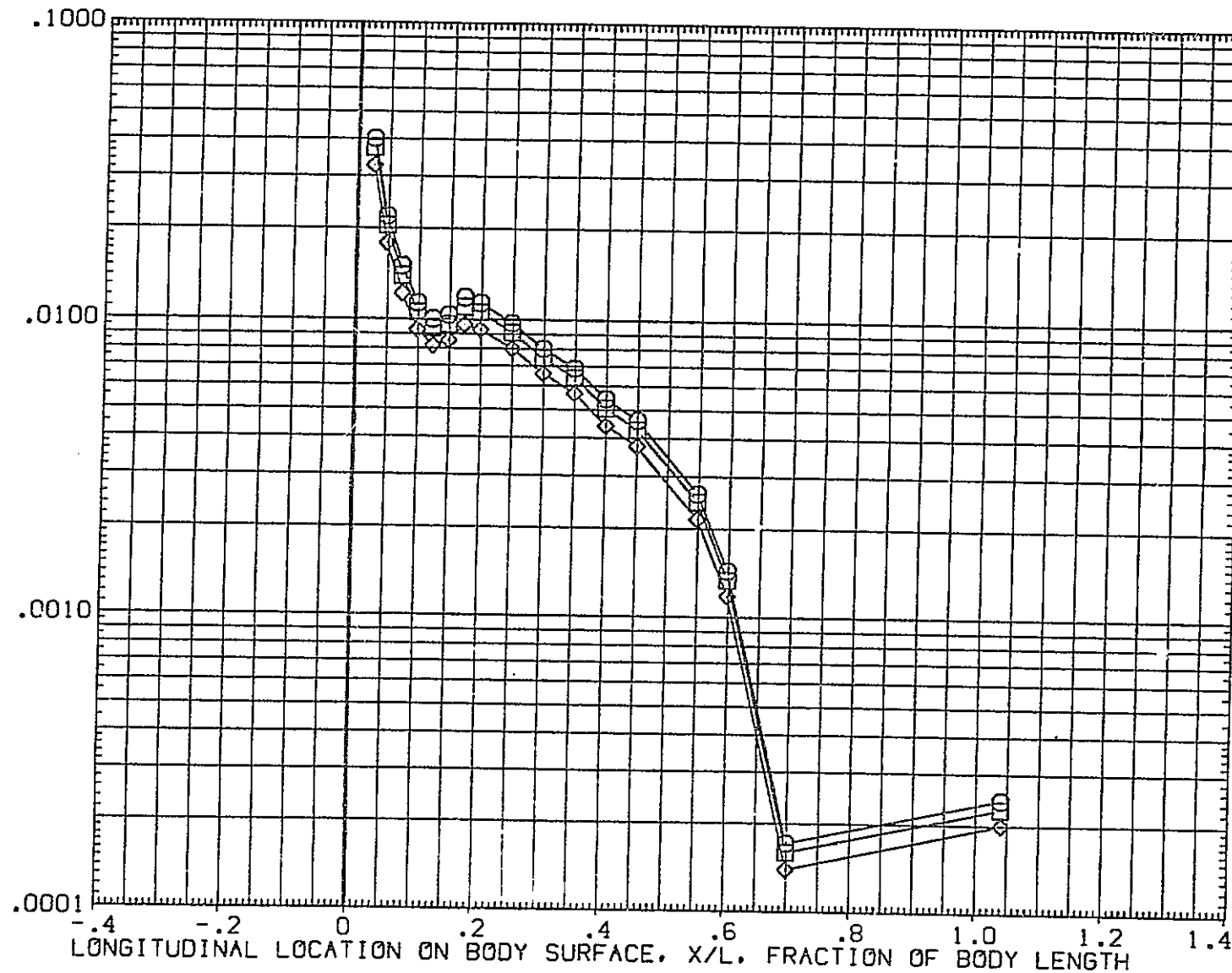


FIG 6 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS OFF

SYMBOL	HAW/HT	Y(BP)	ALPHA
◇	.850	117.000	-5.000
□	.900		
○	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	DELTAH	.175
MACH	19.800		

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

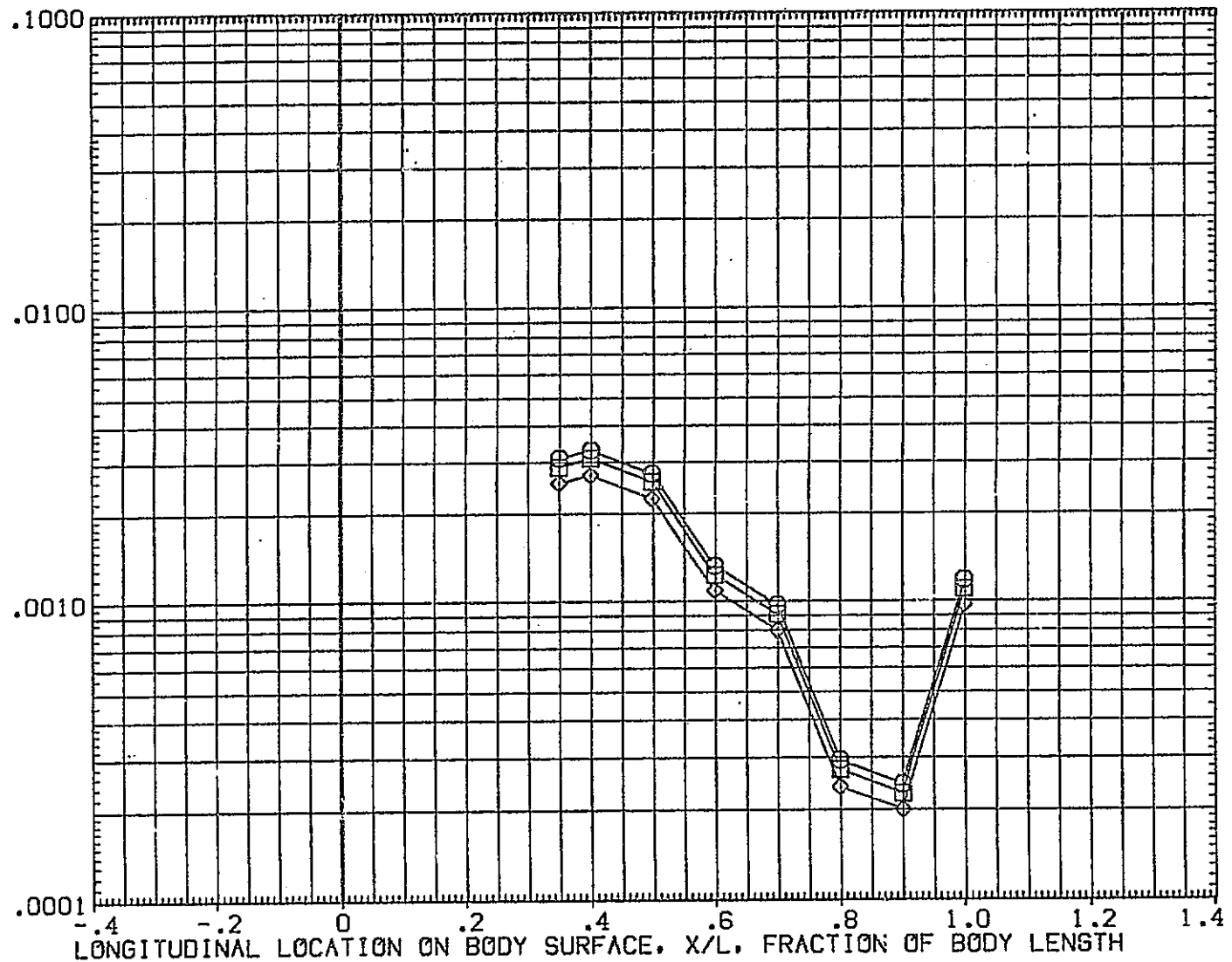


FIG 6 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS OFF

IH19 B22C7F5M4V7W111 T8 ORBITER LOWER FUSELAGE (SQEB03)

SYMBOL	HAW/HT	Y(BP)	ALPHA
○	.850	.000	.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
MACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

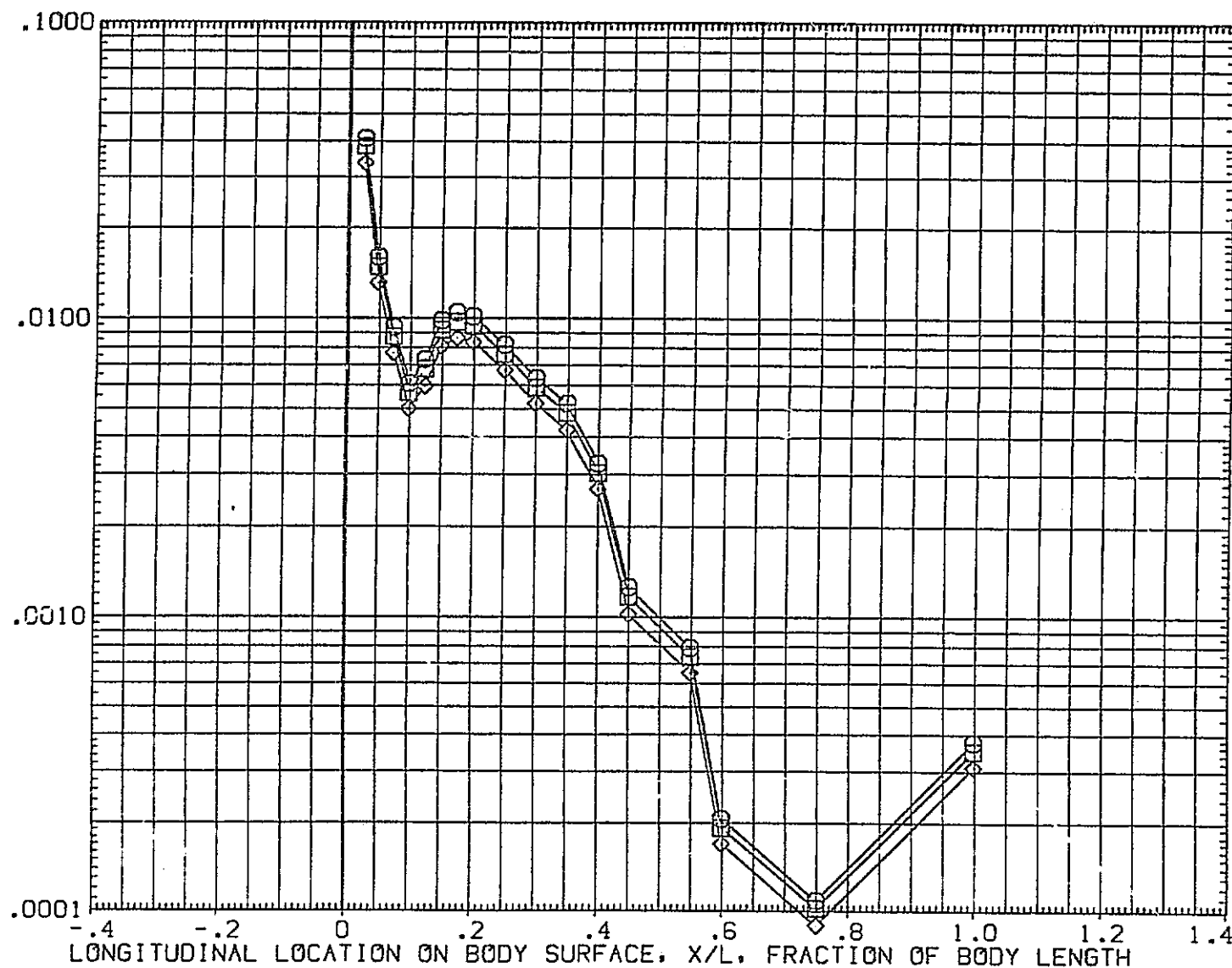


FIG 6 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS OFF

SYMBOL	HAW/HT	Y(BP)	ALPHA
◇	.850	117.000	.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
MACH	19.800	

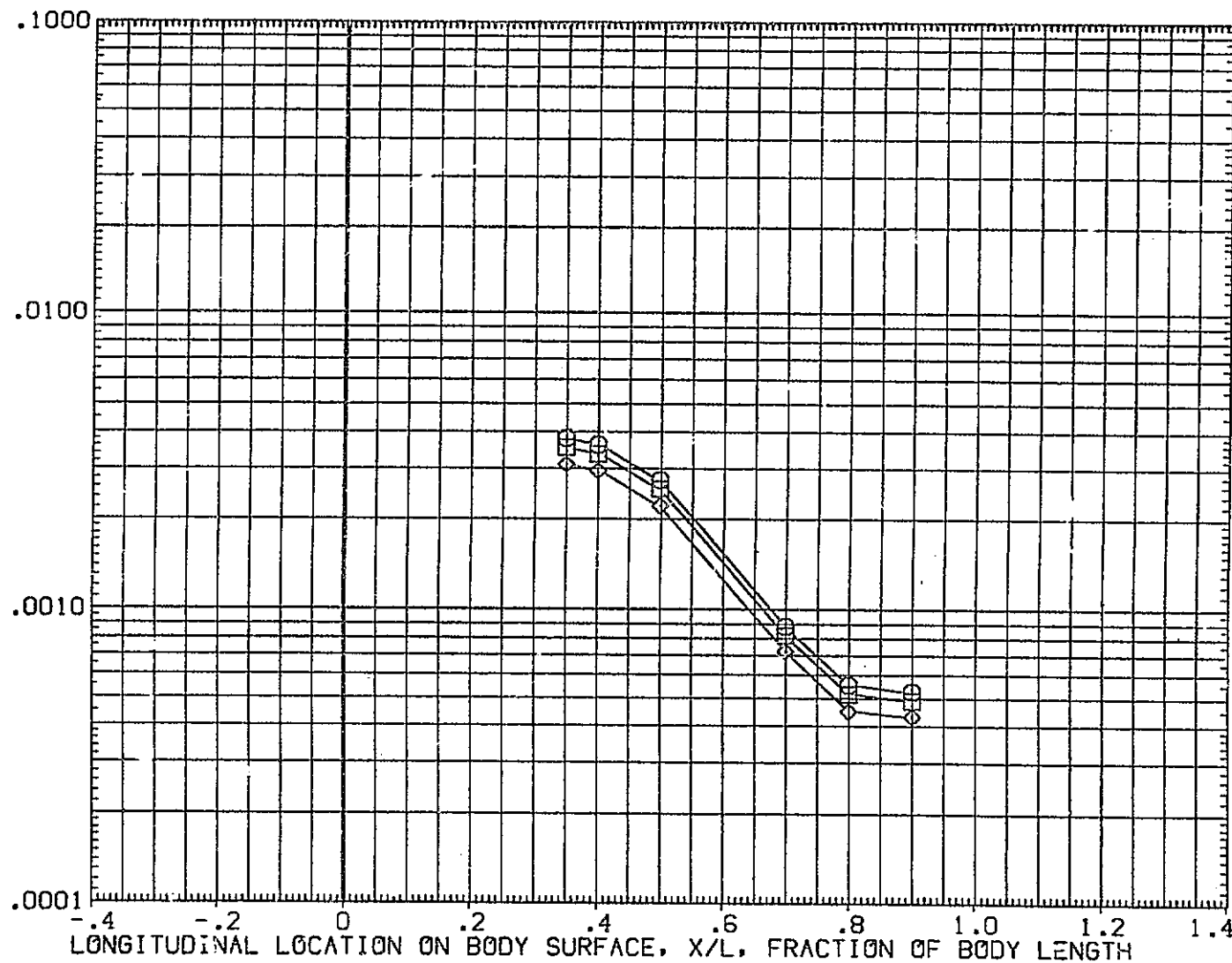
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 6 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS OFF

IH19 B22C7F5M4V7W111 T8 ORBITER LOWER FUSELAGE (SQEB03)

SYMBOL    HAW/HT    Y(BP)    ALPHA  
 ◇ □    .850    .000    5.000  
          .900  
          1.000

PARAMETRIC VALUES  
 BETA    .000    RN/L    .500  
 BLTRIP    .000    DELTAH    .175  
 MACH    19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$

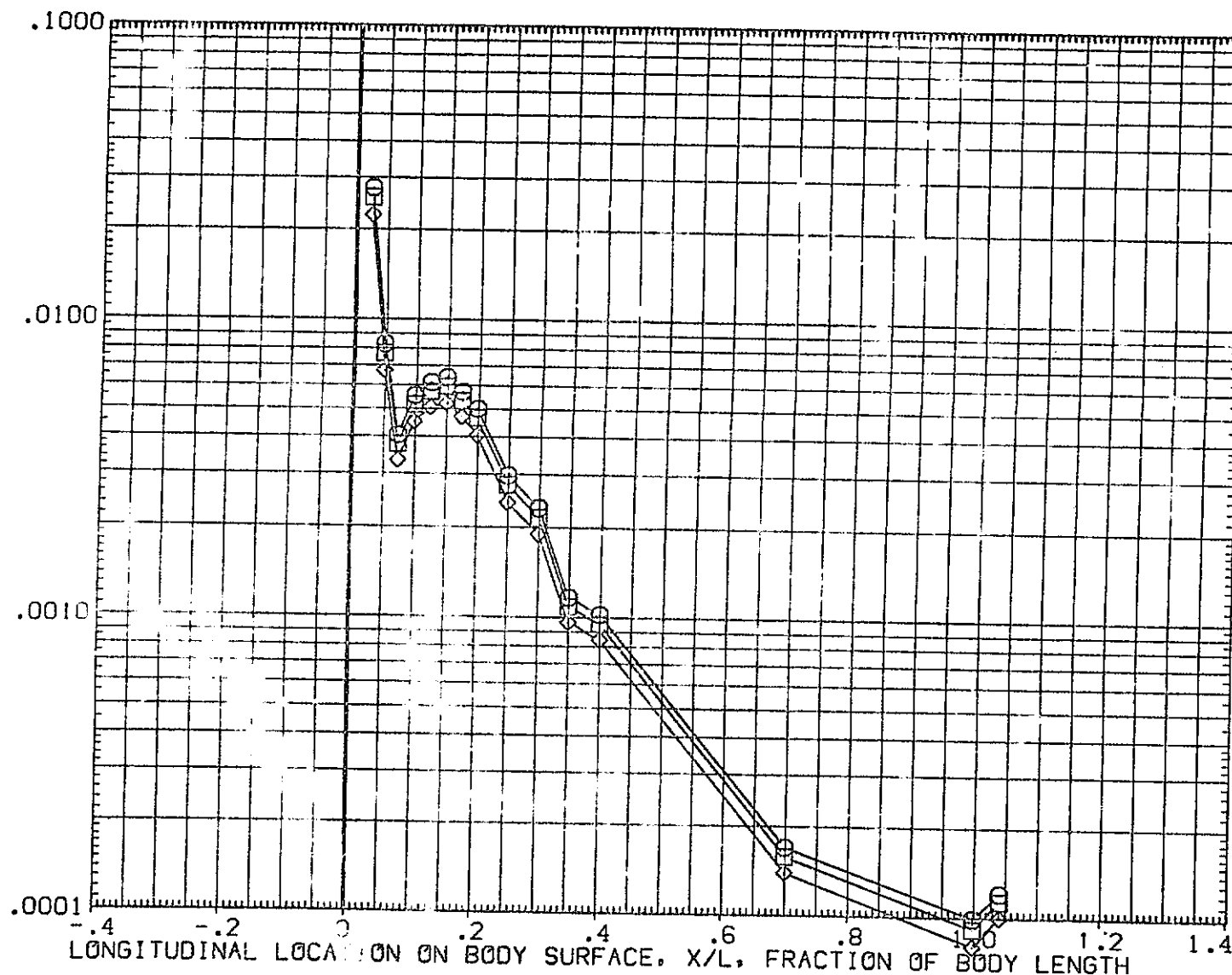


FIG 6 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS OFF

SYMBOL	HAW/HT	Y(EP)	ALPHA
◇	.850	117.000	5.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
MACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

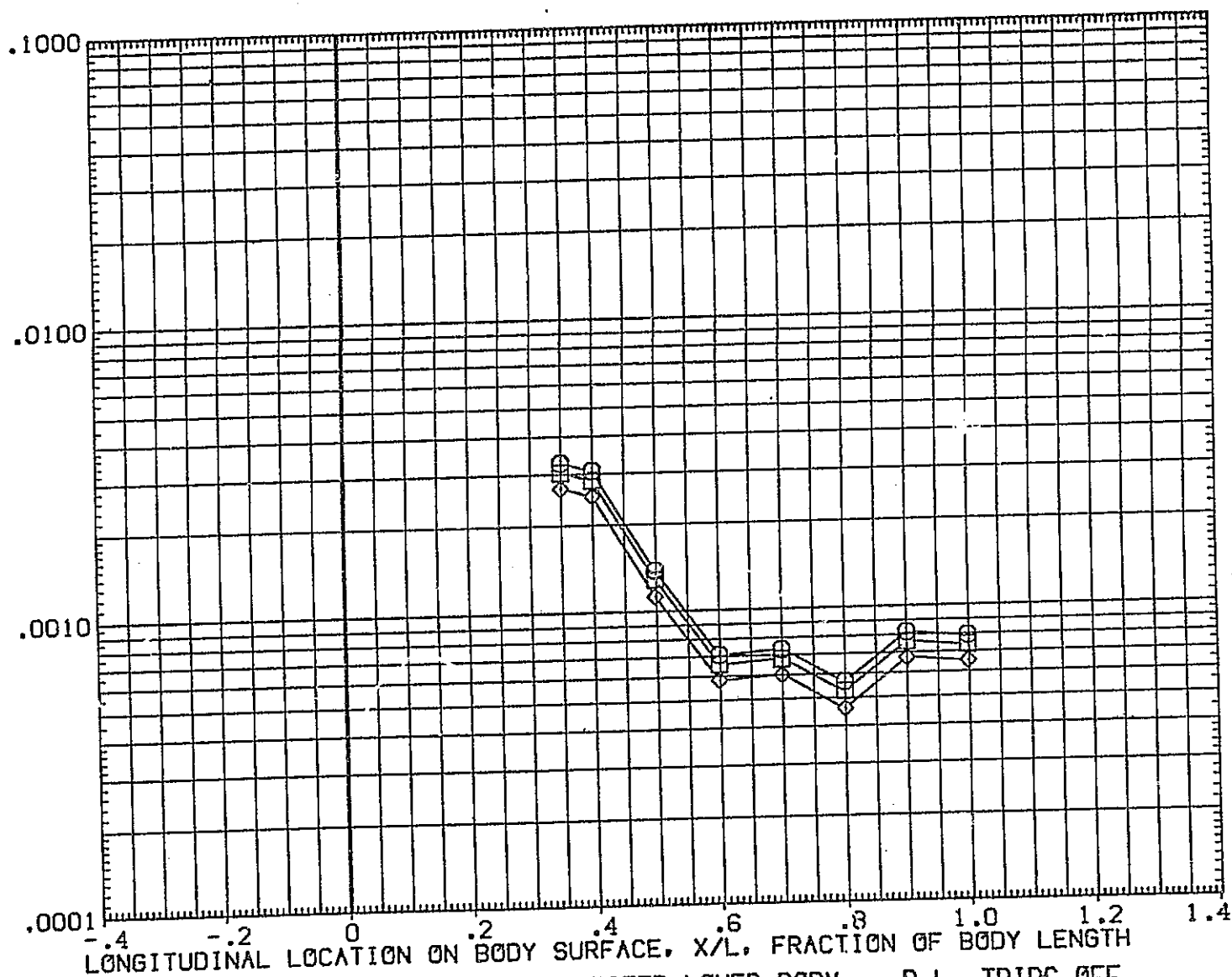


FIG 6 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS OFF

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

# IH19 B22C7F5M4V7W111 T8 ORBITER LOWER FUSELAGE (SQEB03)

SYMBOL	HAW/HT	Y(BP)	ALPHA
○	.850	.000	10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
MACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

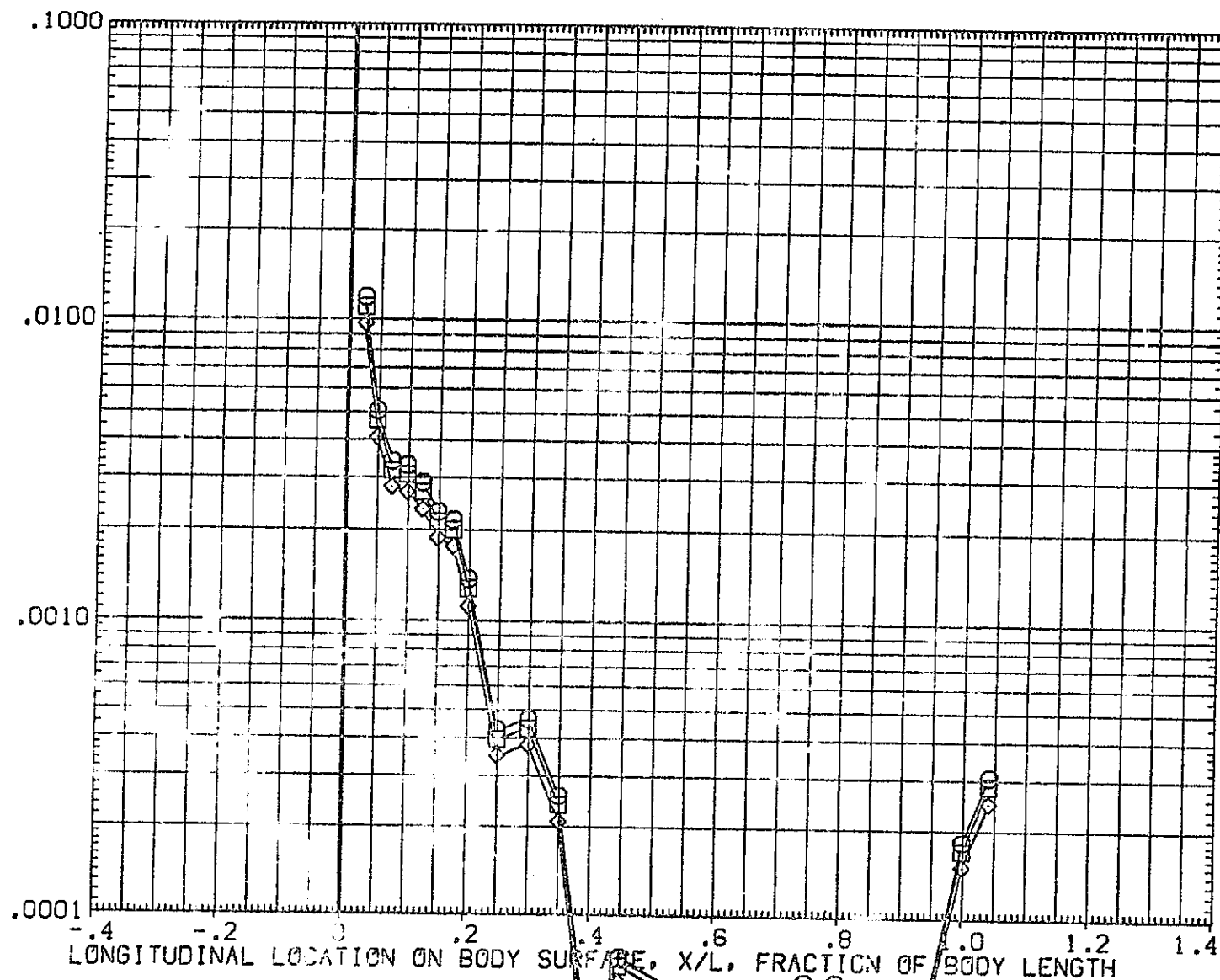


FIG 6 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS OFF



SYMBOL	HAW/HT	Y(BP)	ALPHA
◇	.850	117.900	10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
MACH	19.800	

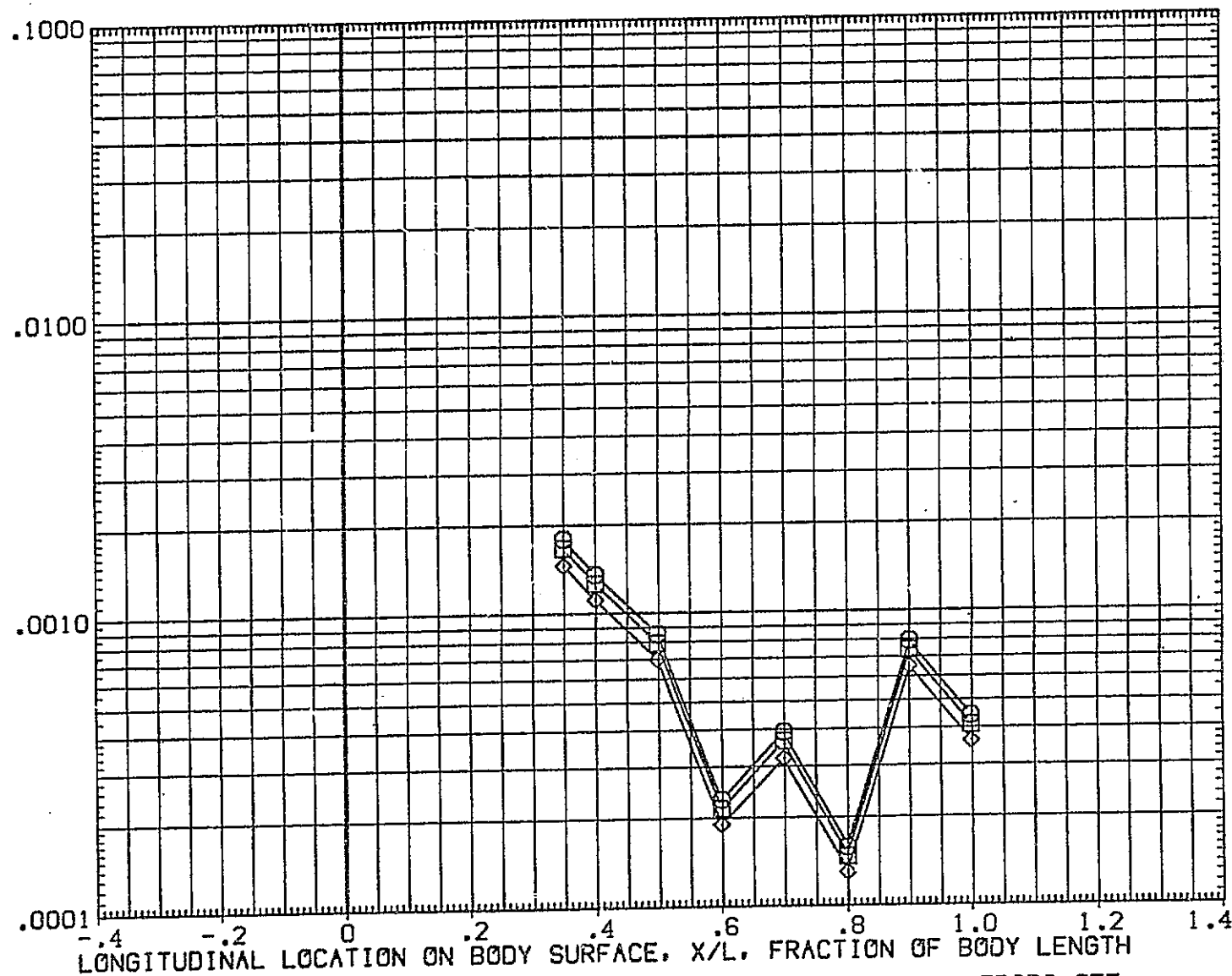
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 6 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS OFF

# IH19 RATIO (ORB+TANK)/ORB ORBITER LOWER FUSELAGE (EQEB03)

SYMBOL    HAW/HT    Y(BP)    ALPHA  
 ◇    .850    .000    -10.000  
 □    .900  
 ◇    1.000

PARAMETRIC VALUES  
 BETA    .000    RN/L    .500  
 BLTRIP    .000    MACH    19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF., HI/HU

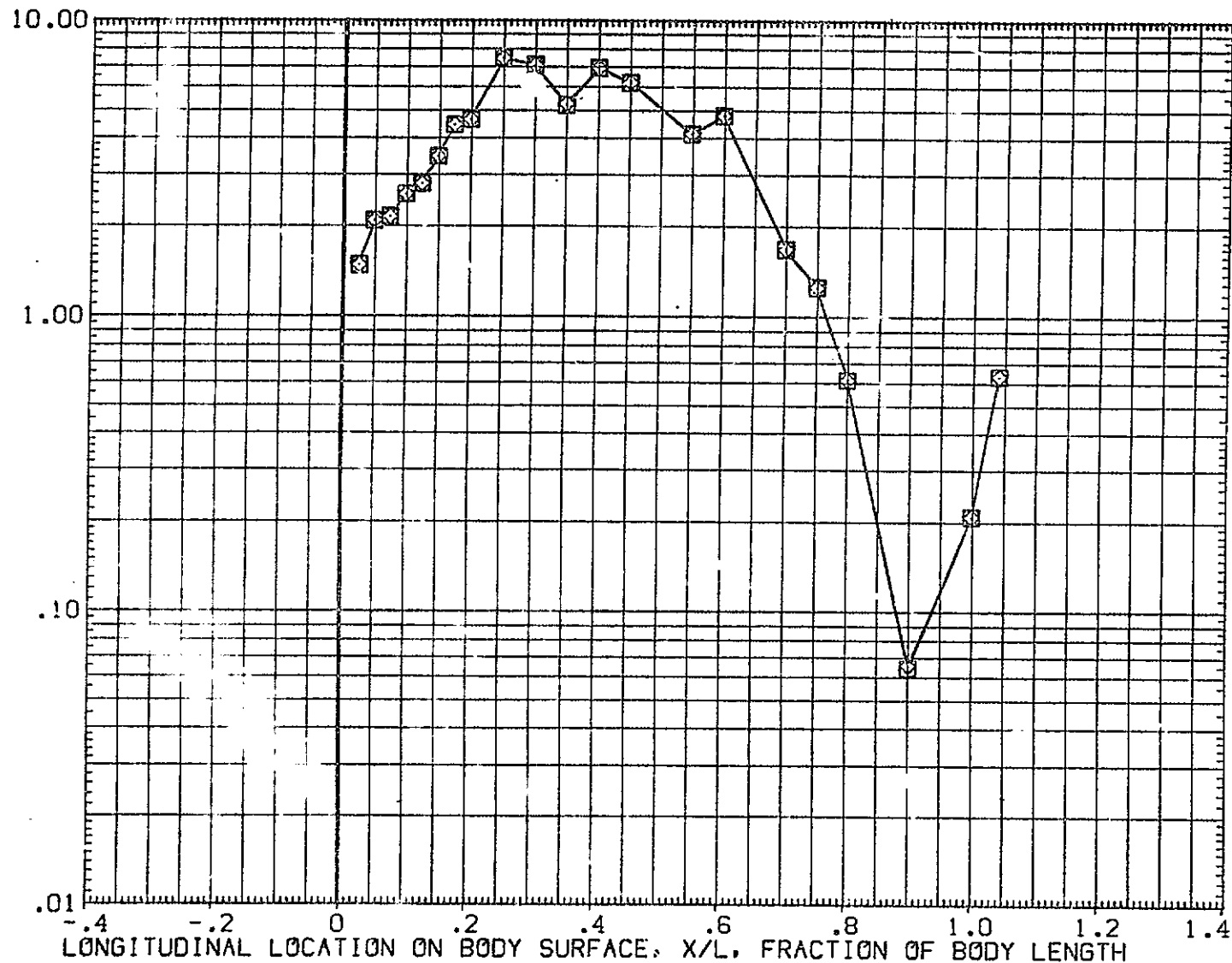


FIG 6 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS OFF

SYMBOL HAW/HT Y(CP) ALPHA  
 ◇ □ ○ .850 117.000 -10.000  
 .900  
 1.000

BETA PARAMETRIC VALUES  
 BLTRIP .000 RN/L .500  
 .000 HACH 19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $H_i/H_u$

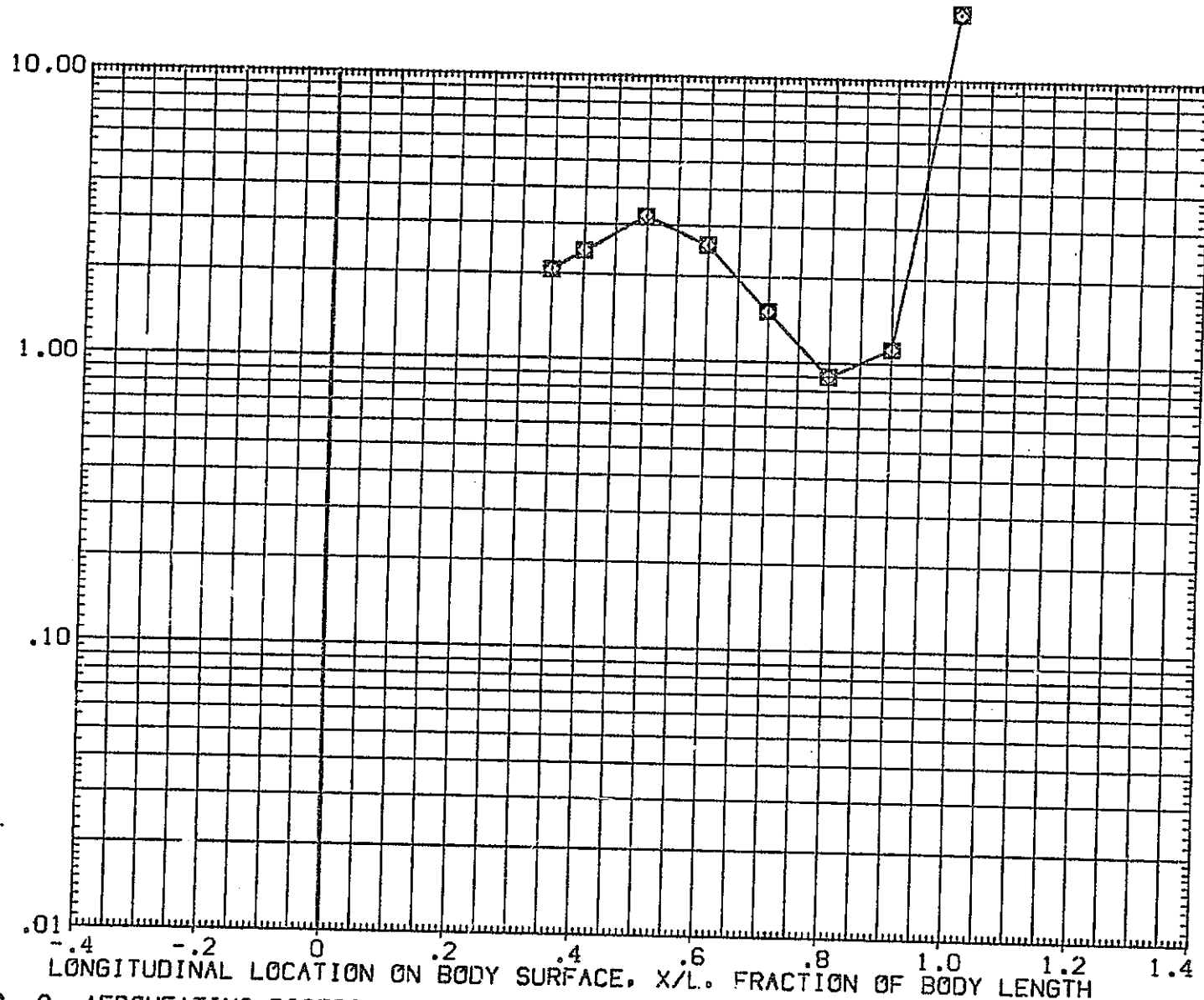


FIG 6 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS OFF



IH19 RATIO (ORB+TANK)/ORB ORBITER LOWER FUSELAGE (EQEB03)

SYMBOL	HAW/HT	Y(BP)	ALPHA
○	.850	.000	-5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	MACH	19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $H_i/H_u$

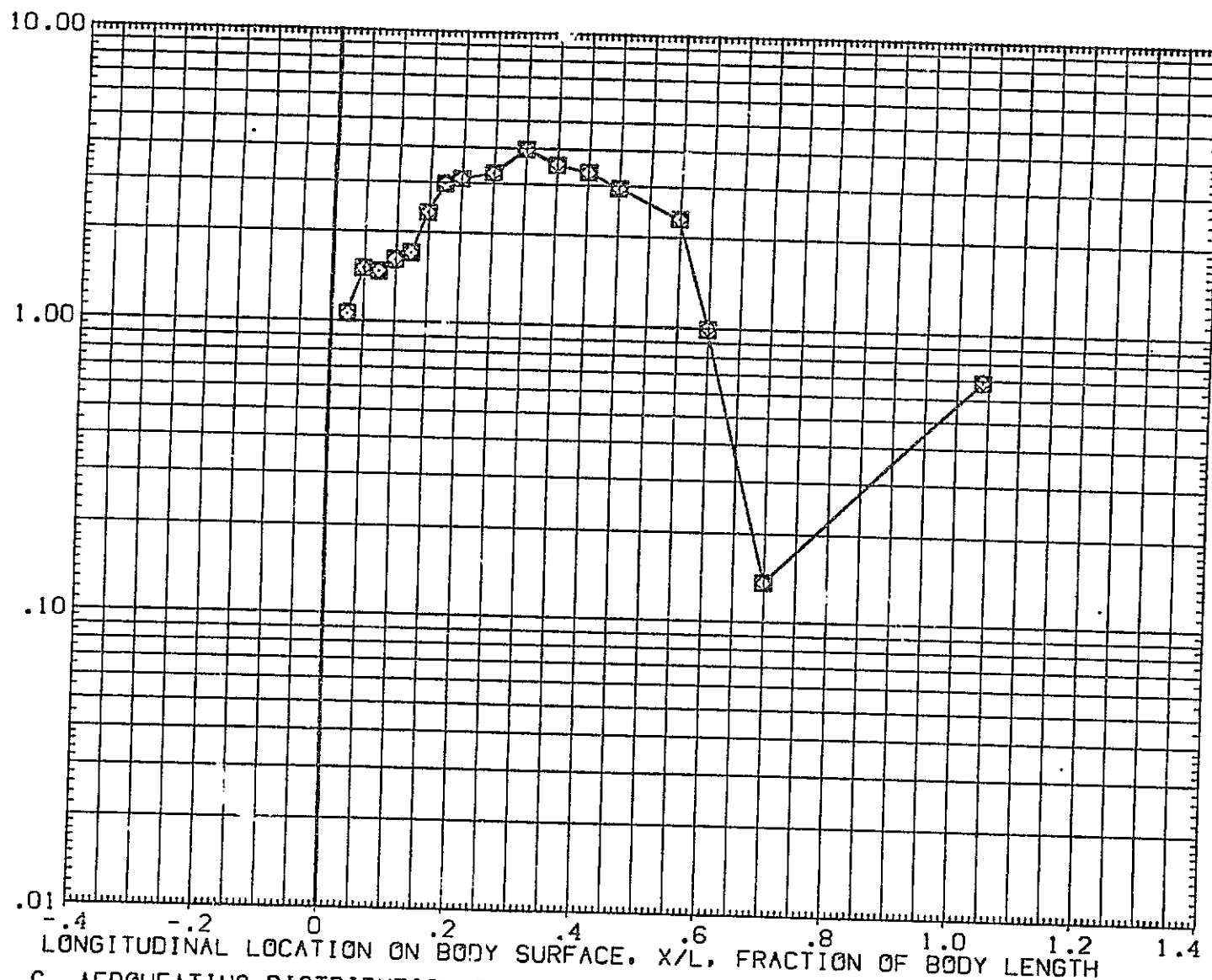


FIG 6 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS OFF

# IH19 RATIO (ORB+TANK)/ORB ORBITER LOWER FUSELAGE (EQEB03)

SYMBOL HAW/HT Y(BP) ALPHA  
 ◇ □ □ .050 117.000 -5.000  
 .900  
 1.000

BETA .000 RN/L .500  
 BLTRIP .000 MACH 19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.. HI/HU

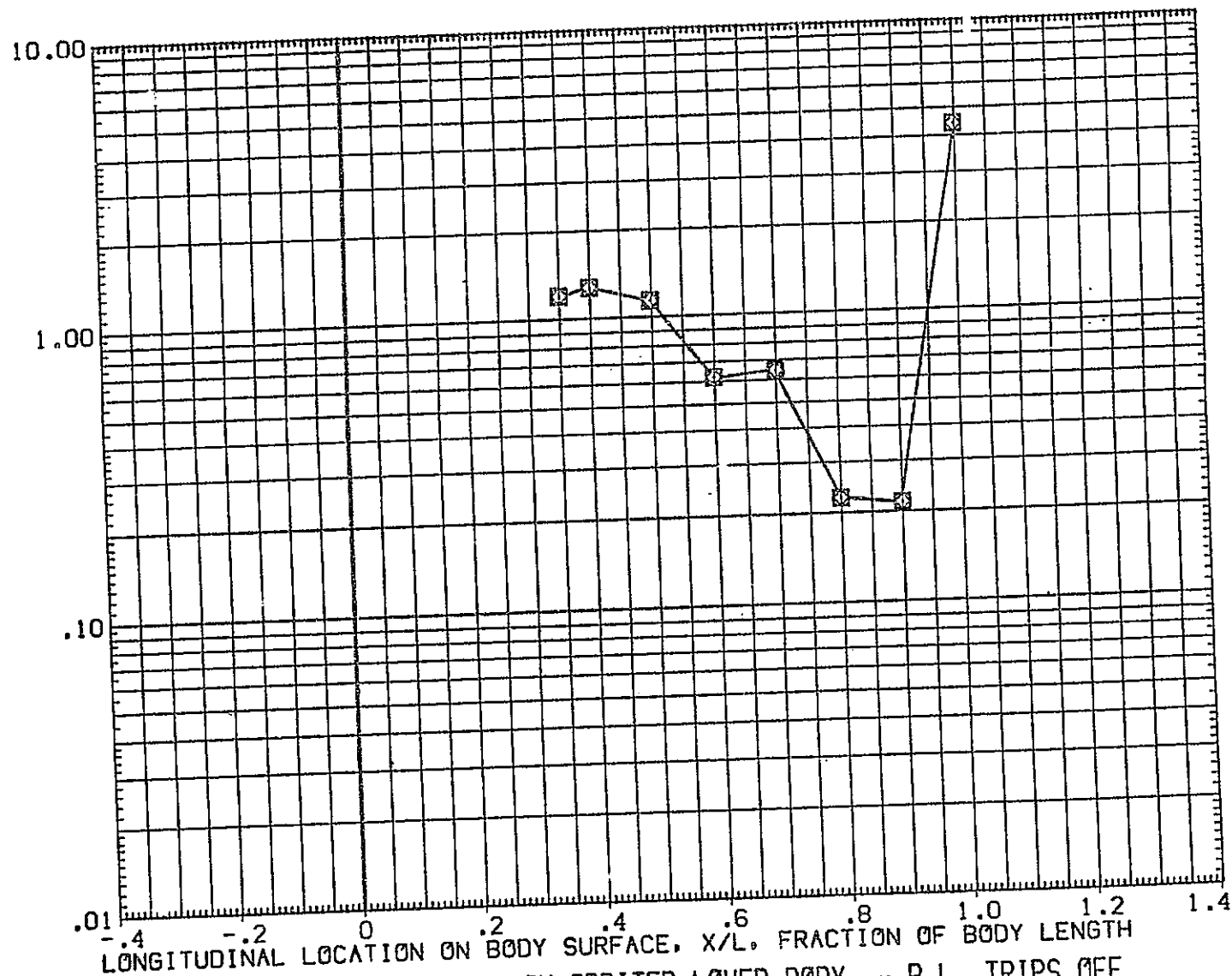


FIG 6 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS OFF

# IH19 RATIO (ORB+TANK)/ORB ORBITER LOWER FUSELAGE (EQEB03)

SYMBOL	HAW/HT	Y(BP)	ALPHA
○	.850	.000	.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF., HI/HU

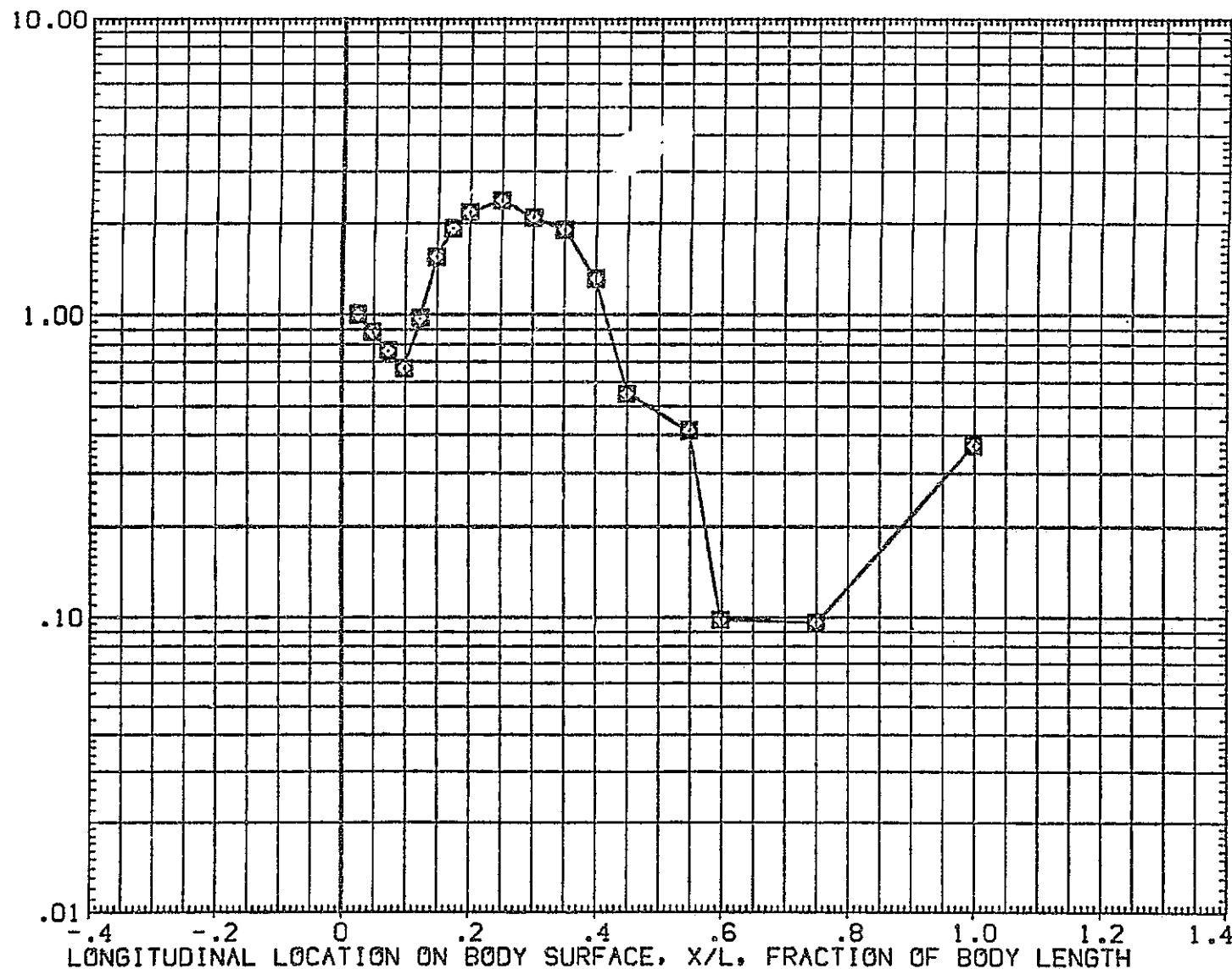


FIG 6 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS OFF

# IH19 RATIO (ORB+TANK)/ORB ORBITER LOWER FUSELAGE (EQEB03)

SYMBOL	HAW/HT	Y(BP)	ALPHA
◇	.850	117.000	.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	HACH 19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.. HI/HU

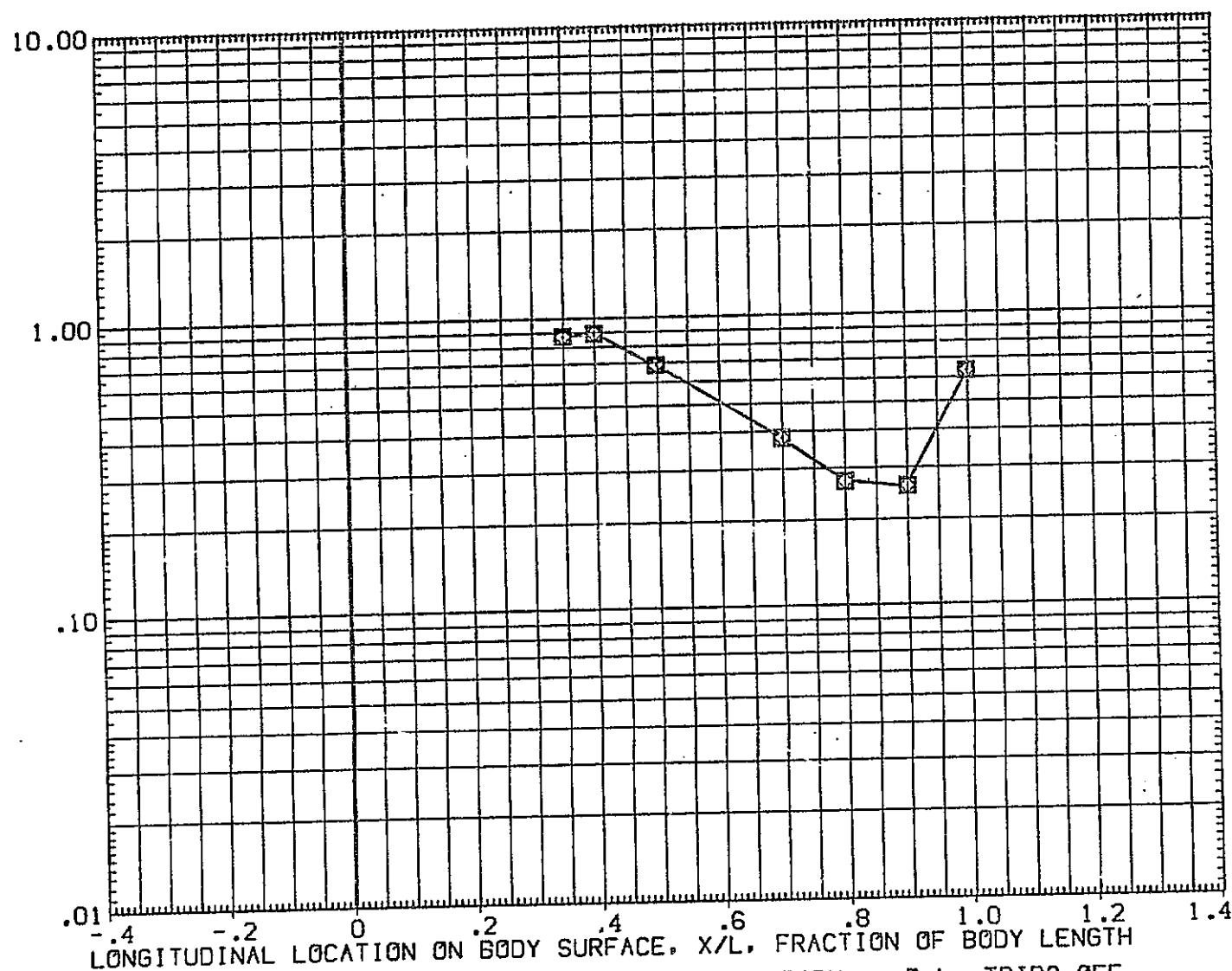


FIG 6 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS OFF

# IH19 RATIO (ORB+TANK)/ORB ORBITER LOWER FUSELAGE (EQEB03)

SYMBOL	HAW/HT	Y(BP)	ALPHA	BETA	PARAMETRIC VALUES	RN/L	HACH	.500
◇	.850	.000	5.000	BLTRIP	.000	.000	HACH	19.800
◇	.900							
◇	1.000							

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.. HI/HU

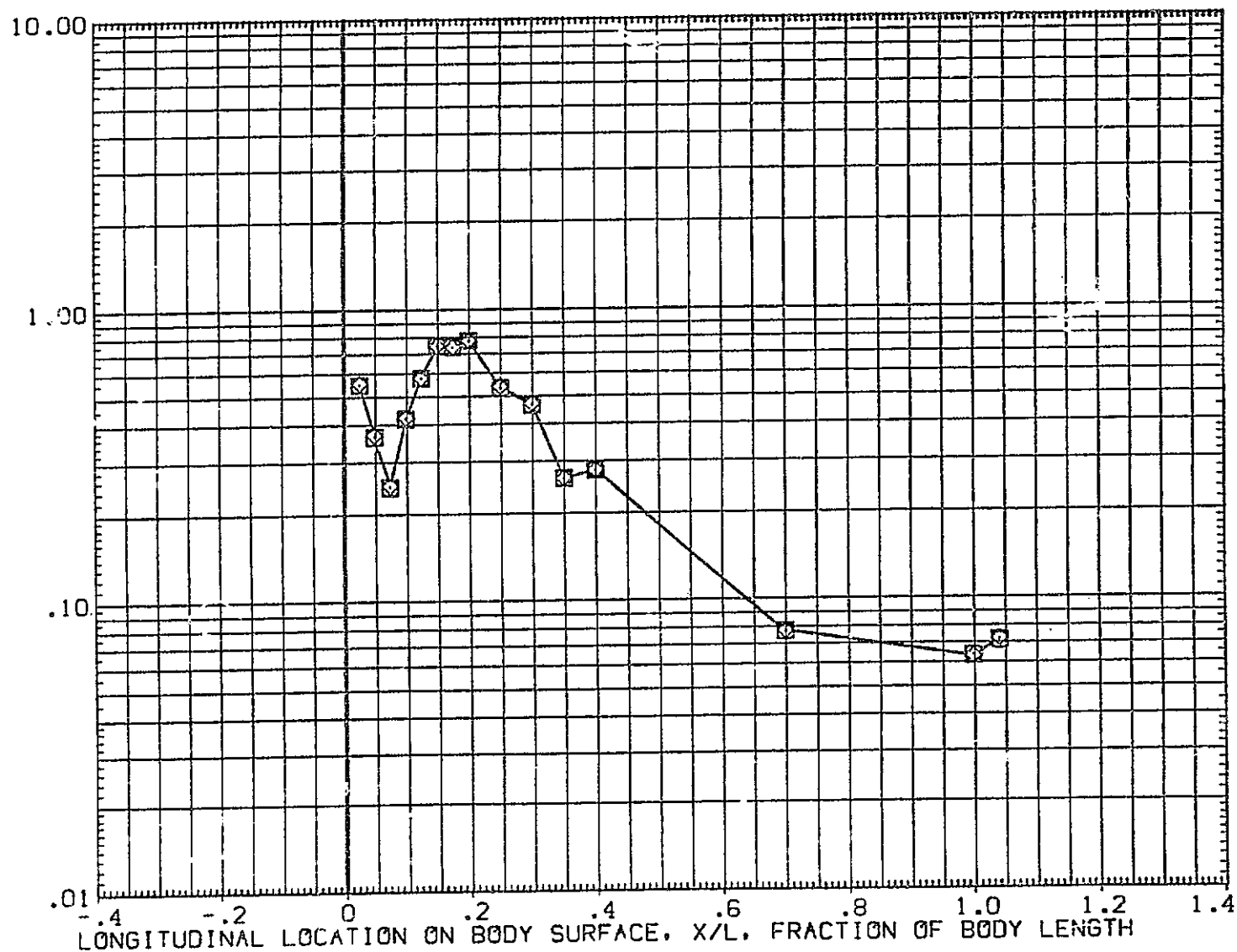


FIG 6 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS OFF

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR



## IH19 RATIO (ORB+TANK)/ORB ORBITER LOWER FUSELAGE (EQEB03)

SYMBOL	HAW/HT	Y(BP)	ALPHA
◇	.850	117,000	5.000
□	.900		
□	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

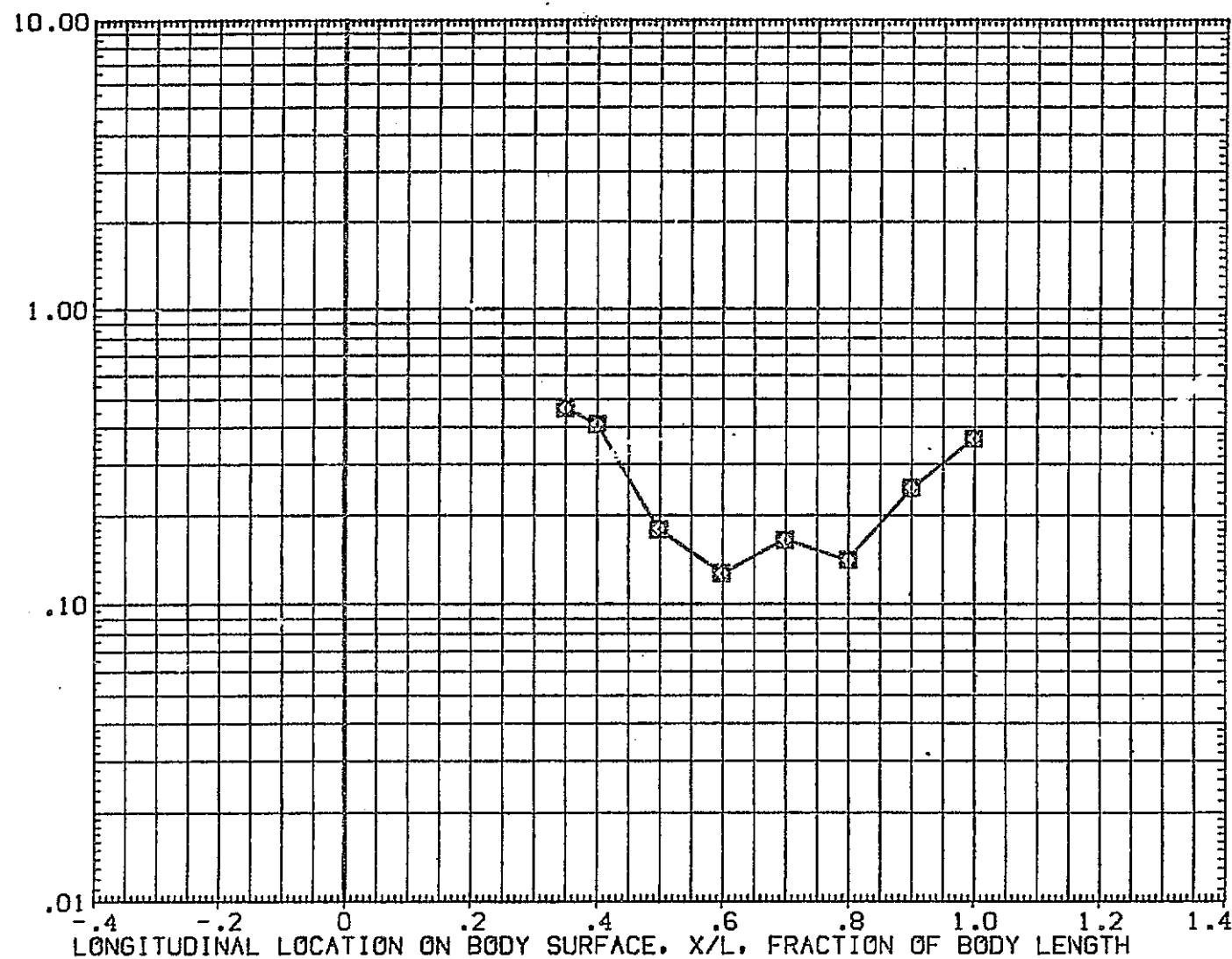
RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $H_i/H_u$ 

FIG 6 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS OFF

# IH19 RATIO (ORB+TANK)/ORB ORBITER LOWER FUSELAGE (EQEB03)

SYMBOL

◇ □ ○

HAW/HT

.850  
.900  
1.000

Y(BP)

.000

ALPHA

10.000

PARAMETRIC VALUES

BETA

.000

RN/L

.500

BLTRIP

.000

MACH

19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF., HI/HU

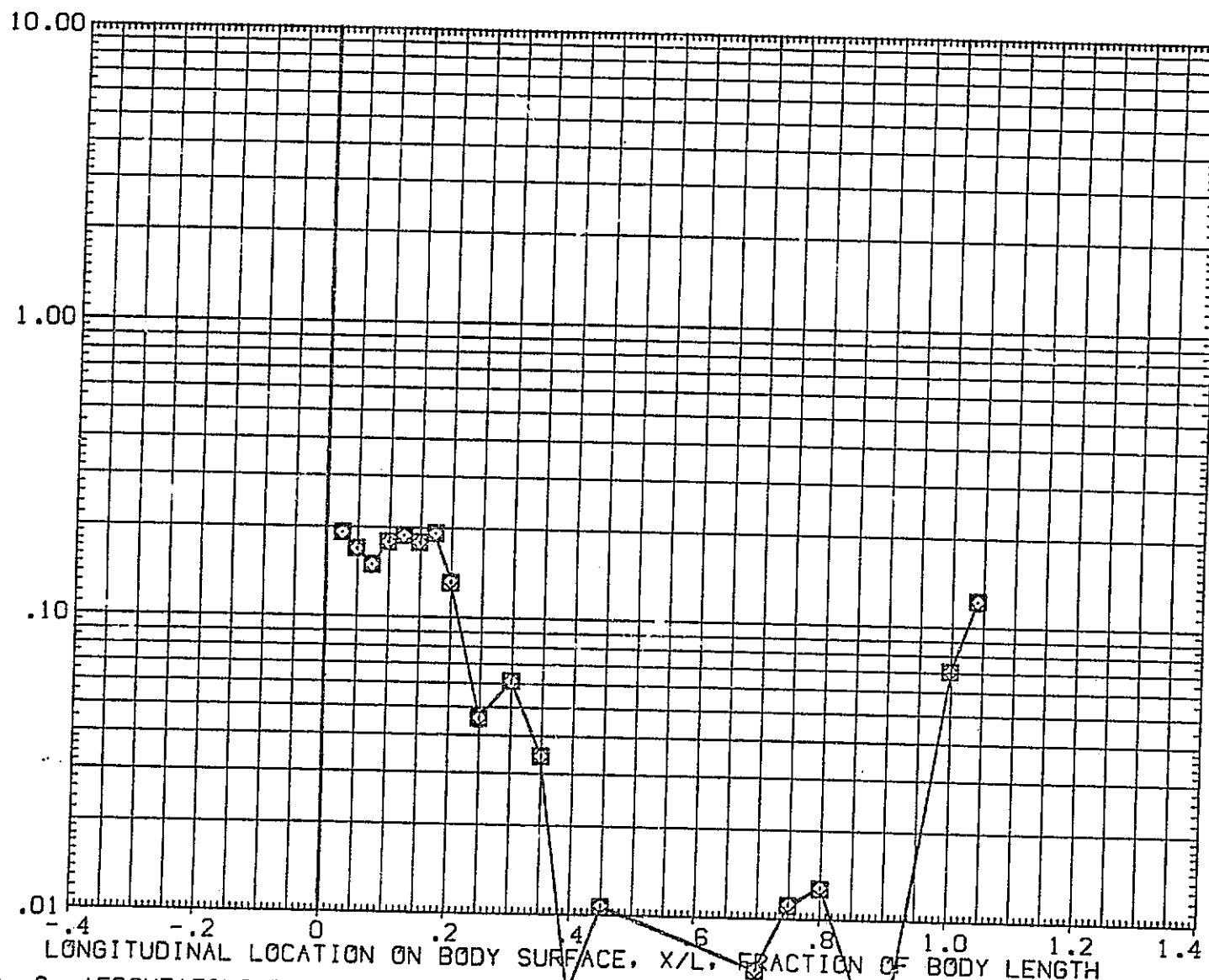


FIG 6 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS OFF

# IH19 RATIO (ORB+TANK)/ORB ORBITER LOWER FUSELAGE (EQEBG3)

SYMBOL	HAW/HT	Y(BP)	ALPHA
◇ □ ○	.850	117.000	10.000
	.900		
	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	MACH	19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.. HI/HU

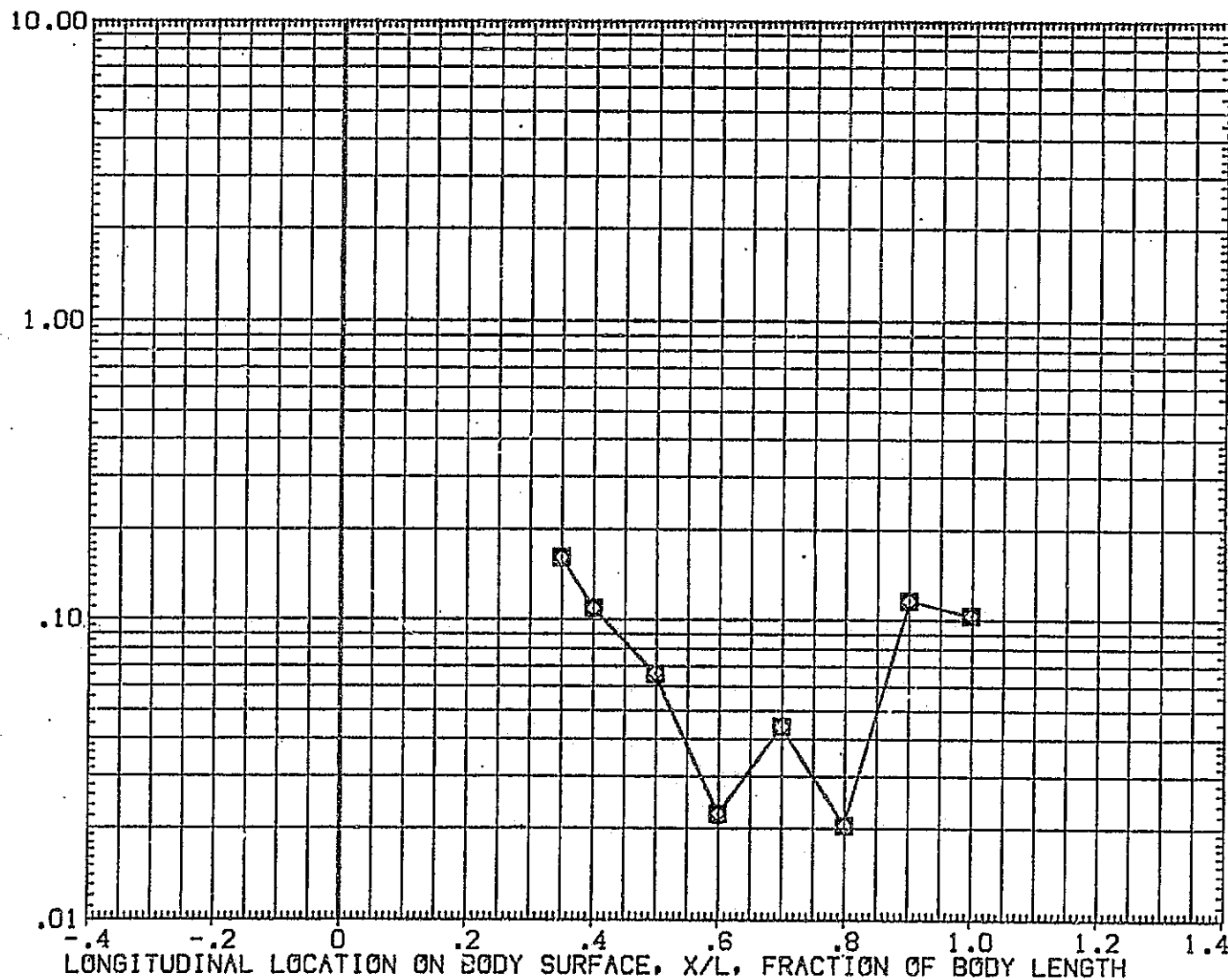


FIG 6 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS OFF

IH19 B22C7F5M4V7W111

ORBITER LOWER FUSELAGE (SQEB05)

SYMBOL	HAW/HT	Y(BP)	ALPHA
○	.850	.000	-10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	MACH 19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

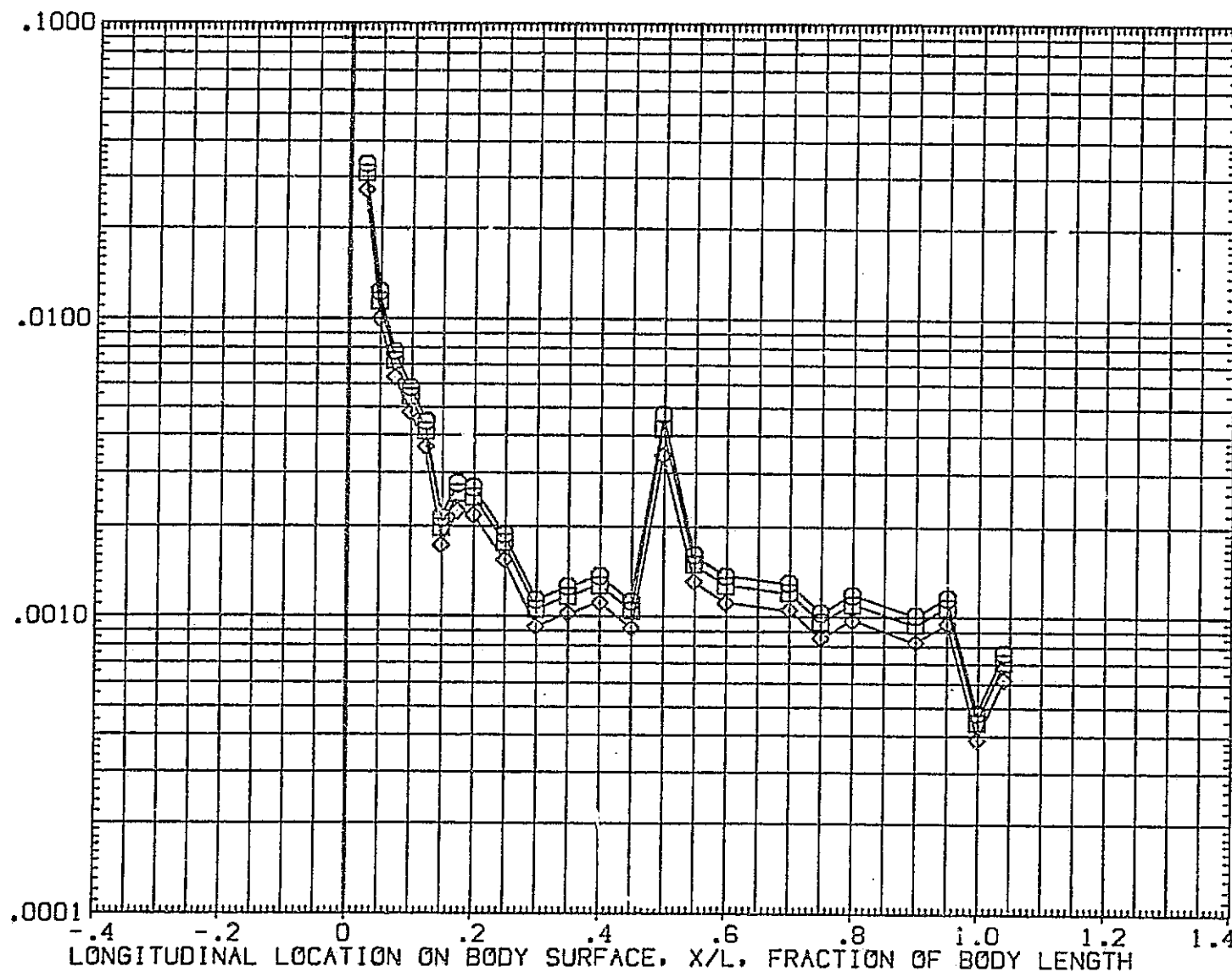


FIG 7 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS ON

IH19 B22C7F5M4V7W111

ORBITER LOWER FUSELAGE (SQEB05)

SYMBOL	HAW/HT	Y(BP)	ALPHA
□	.850	117.000	-10.000
◇	.900		
	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	HACH 19.200

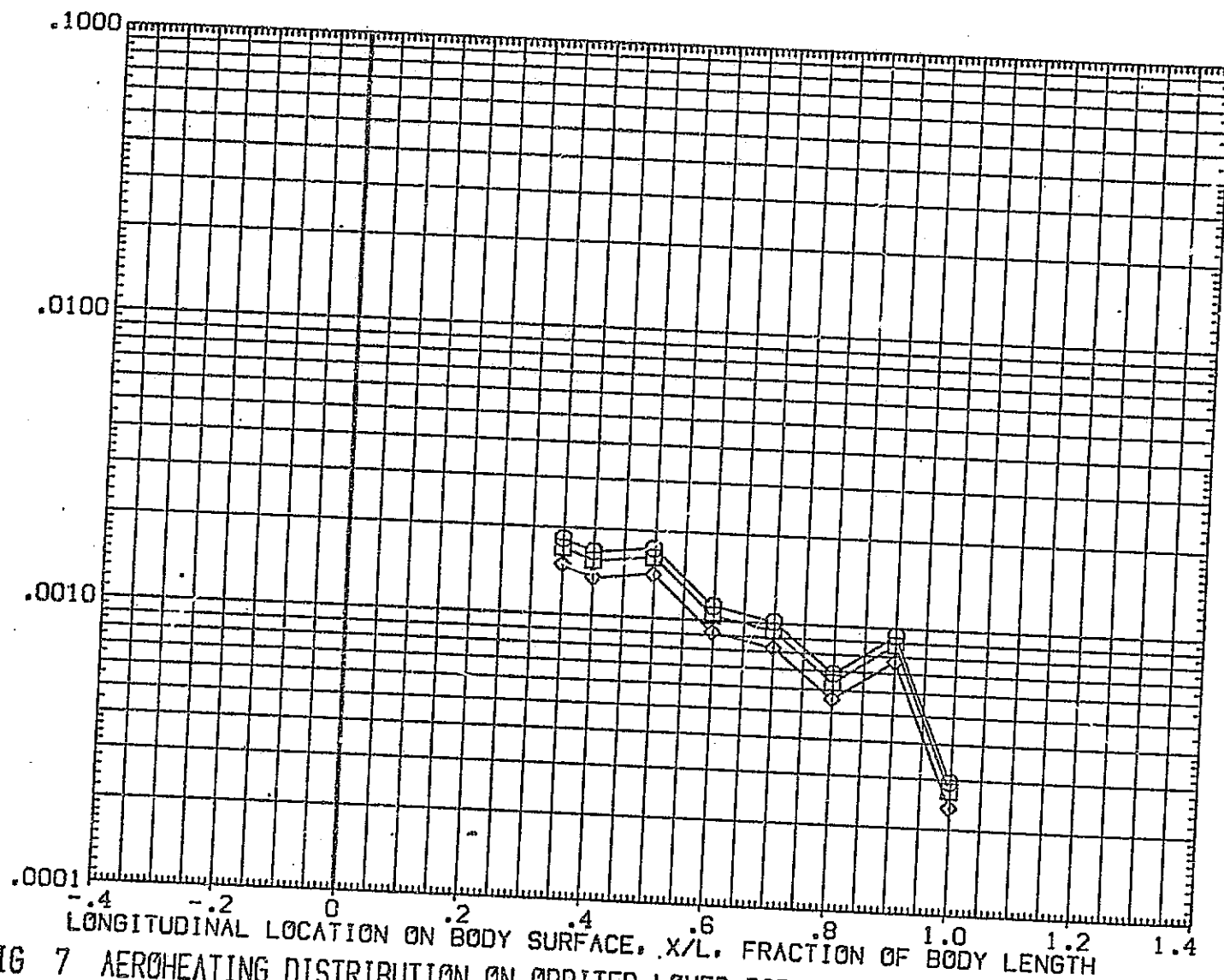
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 7 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS ON



IH19 B22C7F5M4V7W111

ORBITER LOWER FUSELAGE (SQEB05)

SYMBOL	HAW/HT	Y(BP)	ALPHA
□	.850	.000	-5.000
◇	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	MACH 19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

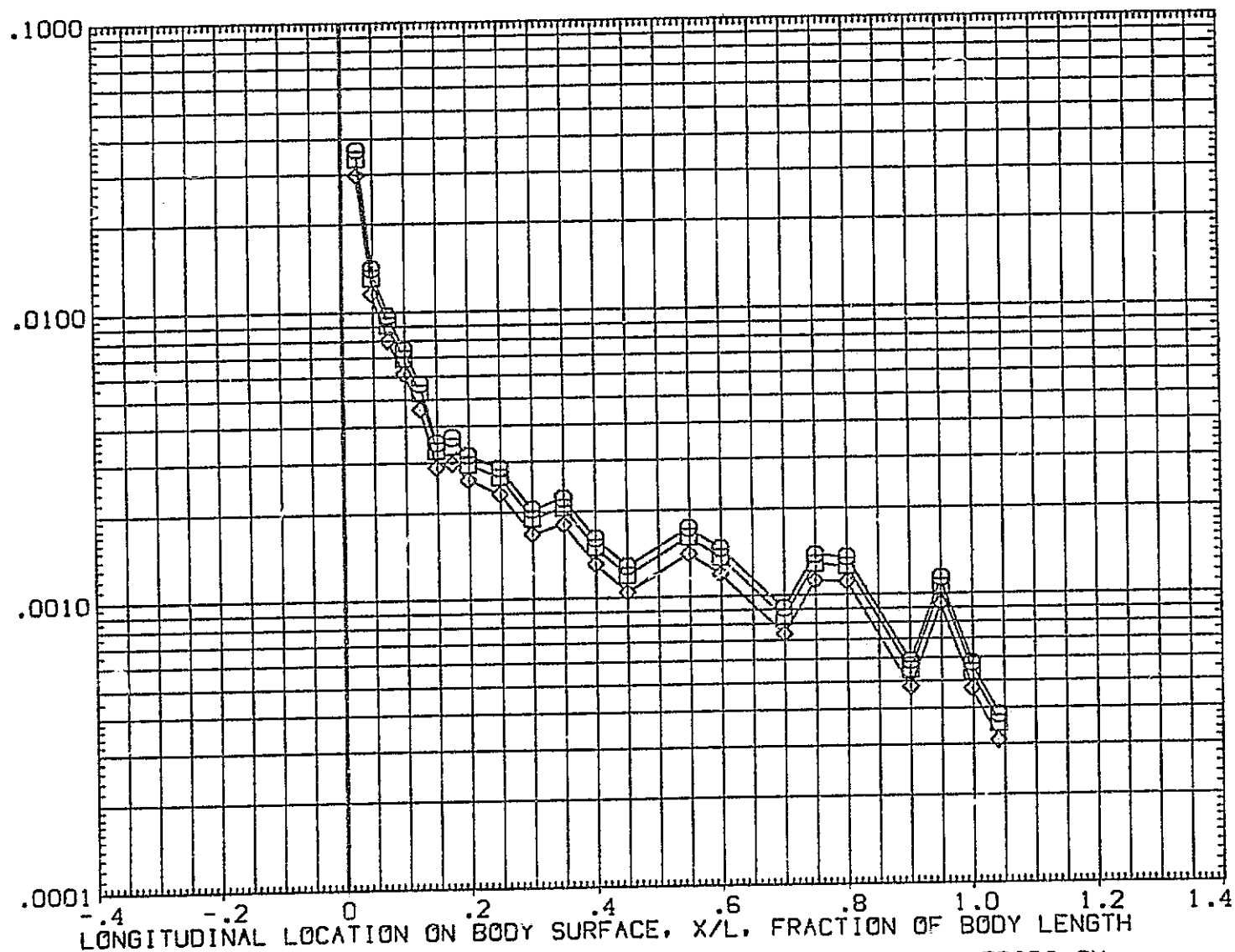


FIG 7 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS ON

IH19 B22C7F5M4V7W111

ORBITER LOWER FUSELAGE (SQEB05)

SYMBOL	HAW/HT	Y(BP)	ALPHA
○	.850	117.000	-5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	HACH 19.000

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

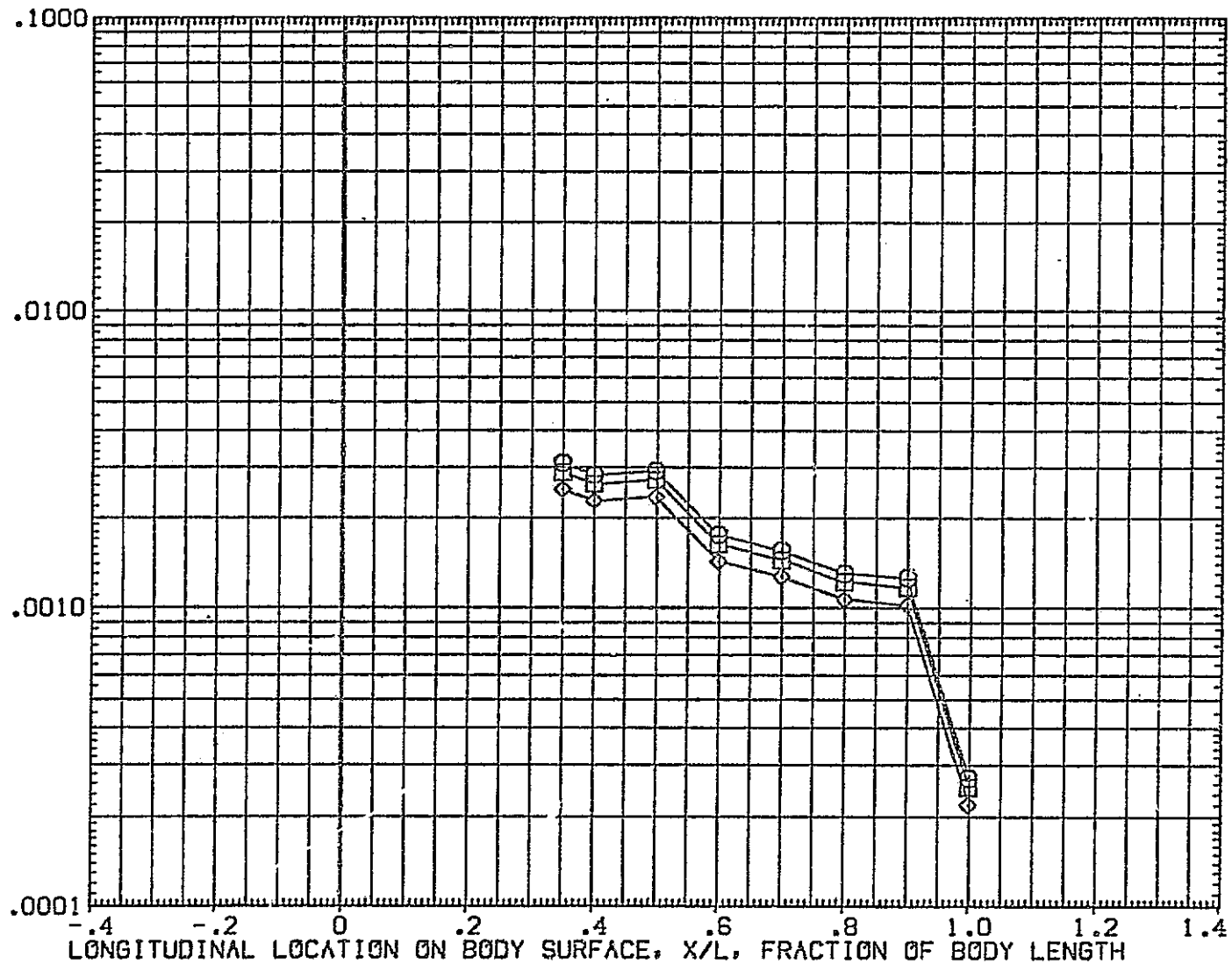


FIG 7 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS ON

IH19 B22C7F5M4V7W111

ORBITER LOWER FUSELAGE (SQEB05)

SYMBOL	HAW/HT	Y(BP)	ALPHA
□	.850	.000	.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L
BLTRIP	.030	MACH
		19.800

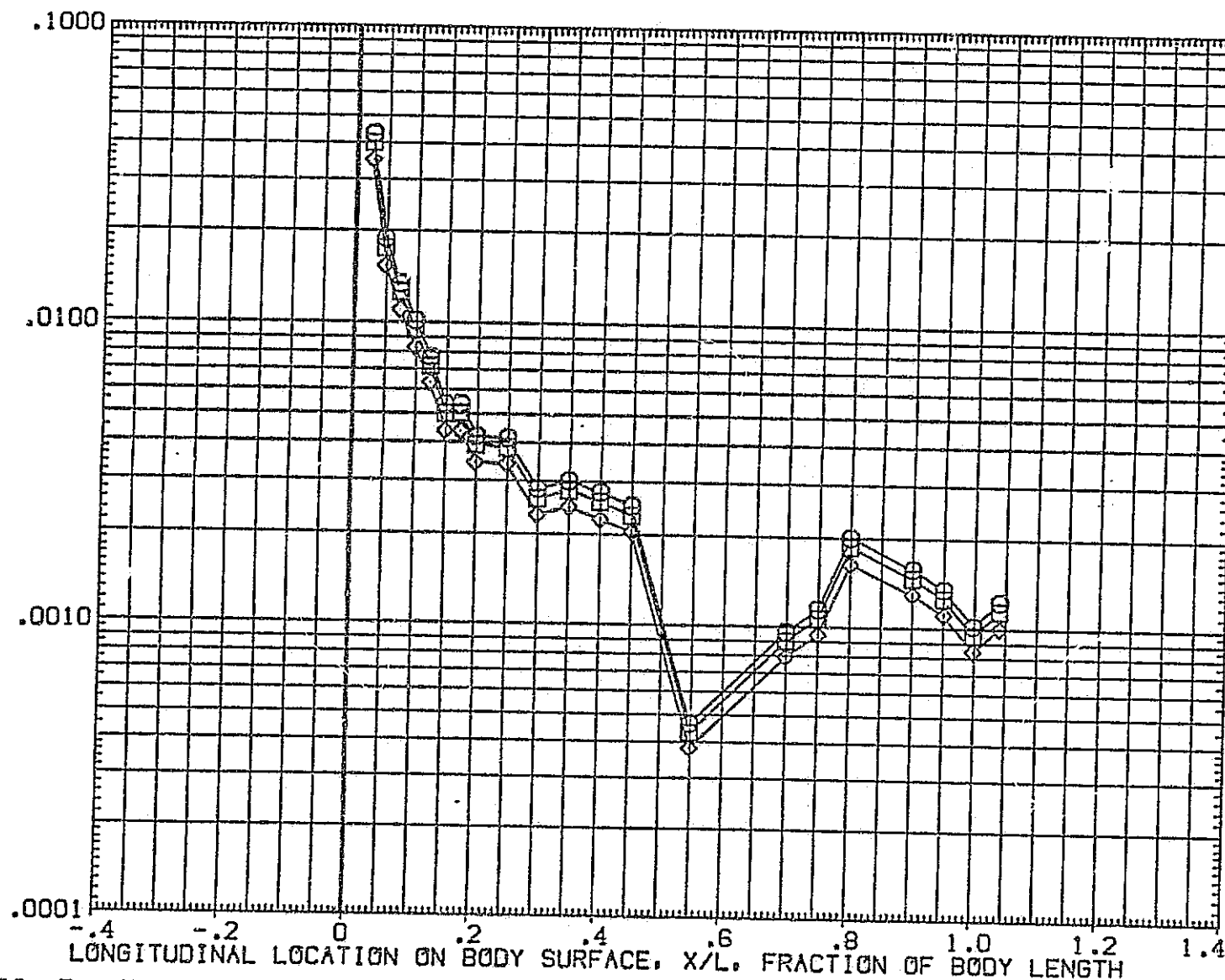
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 7 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS ON



IH19 B22C7F5M4V7W111

ORBITER LOWER FUSELAGE (SQEB05)

SYMBOL	HAW/HT	Y(BP)	ALPHA
◇	.850	117.000	.000
□	.900		
□	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.030	MACH	19.000

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

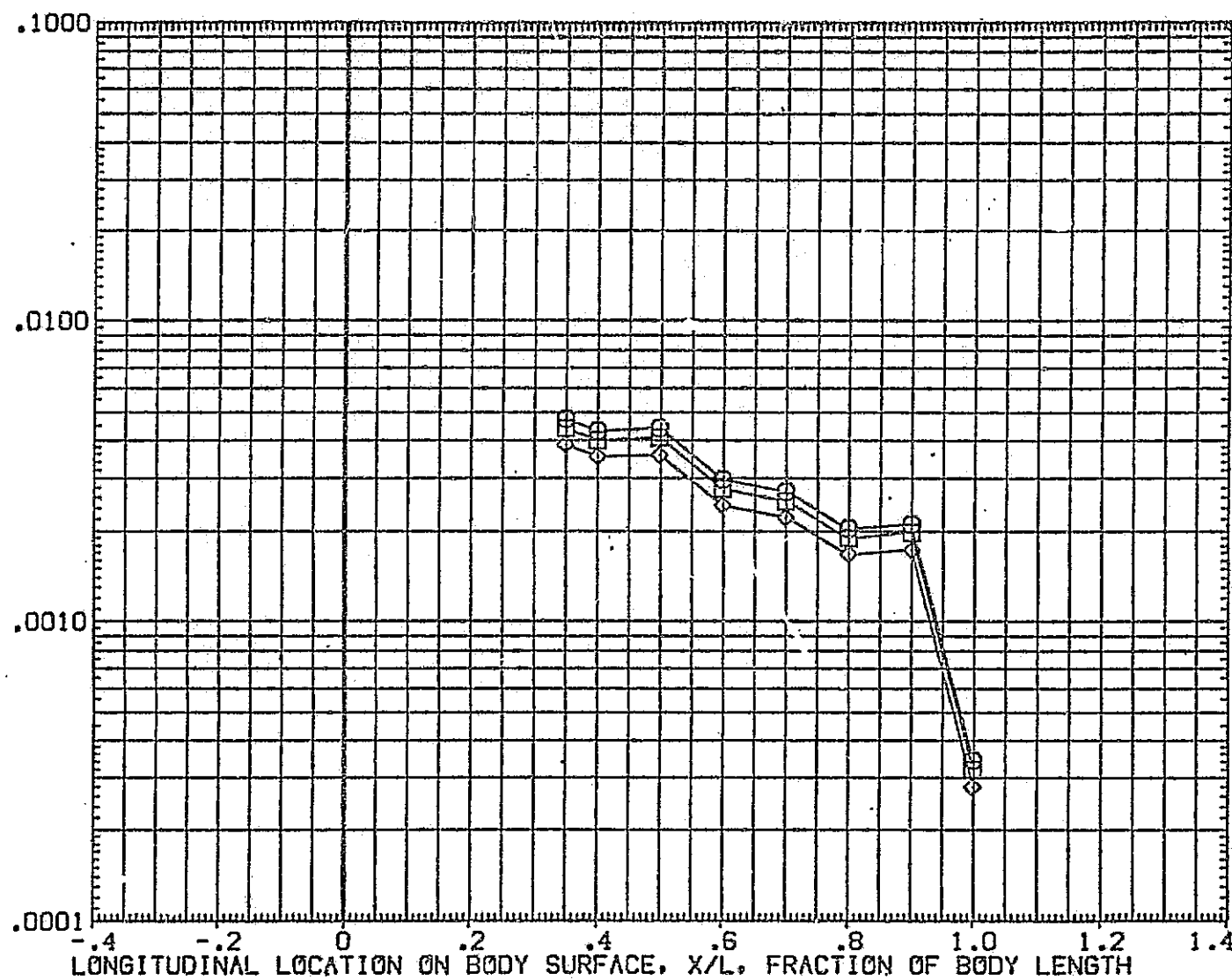


FIG 7 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS ON

IH19 B22C7F5M4V7W111

ORBITER LOWER FUSELAGE (SQEB05)

SYMBOL	HAW/HT	Y(CP)	ALPHA
◇	.850	.000	5.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L
BLTRIP	.030	MACH
		.500
		19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

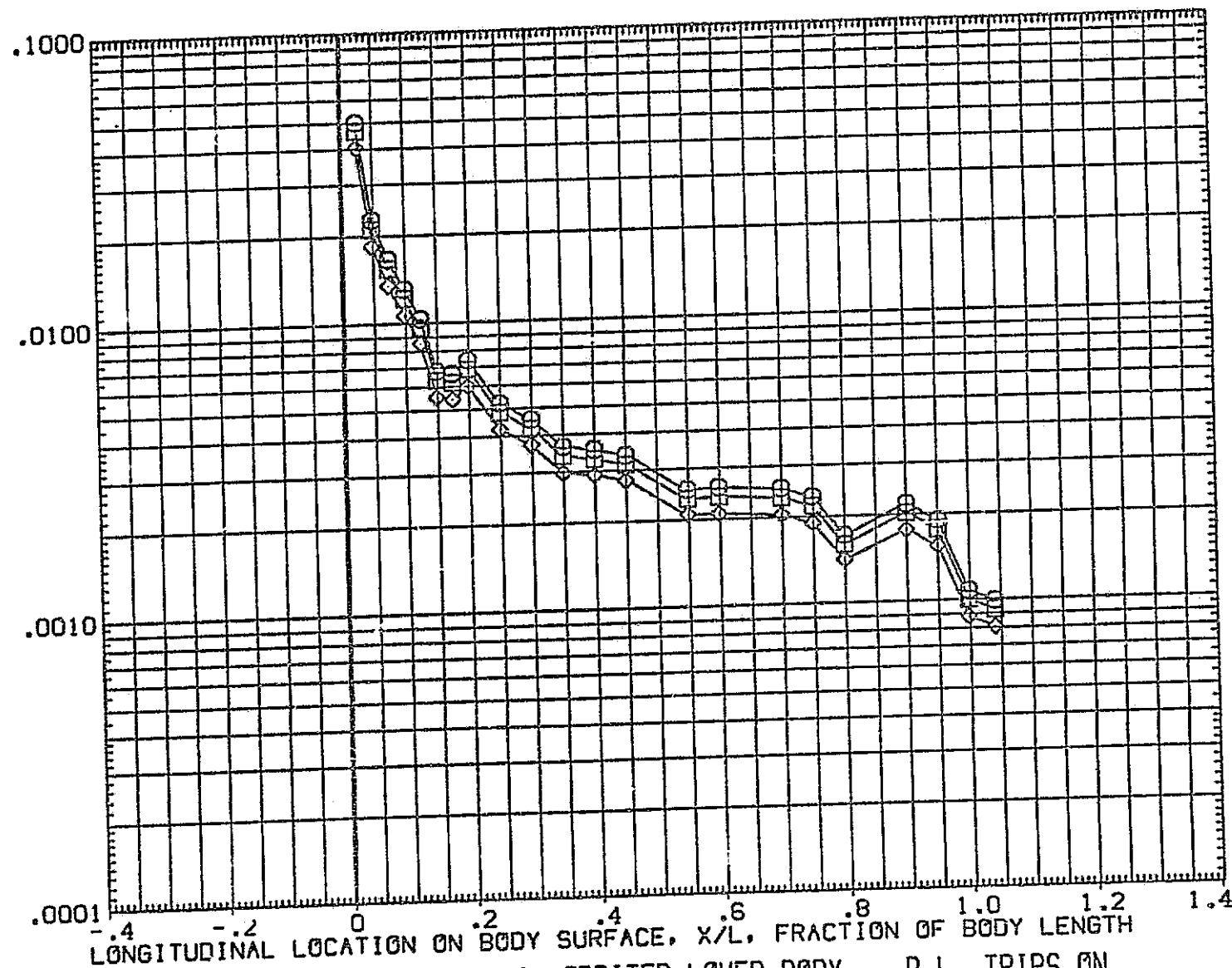


FIG 7 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS ON

SYMBOL	HAW/HT	Y(EP)	ALPHA
◇	.850	117.000	5.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.600	RN/L .500
BLTRIP	.070	HACH 19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

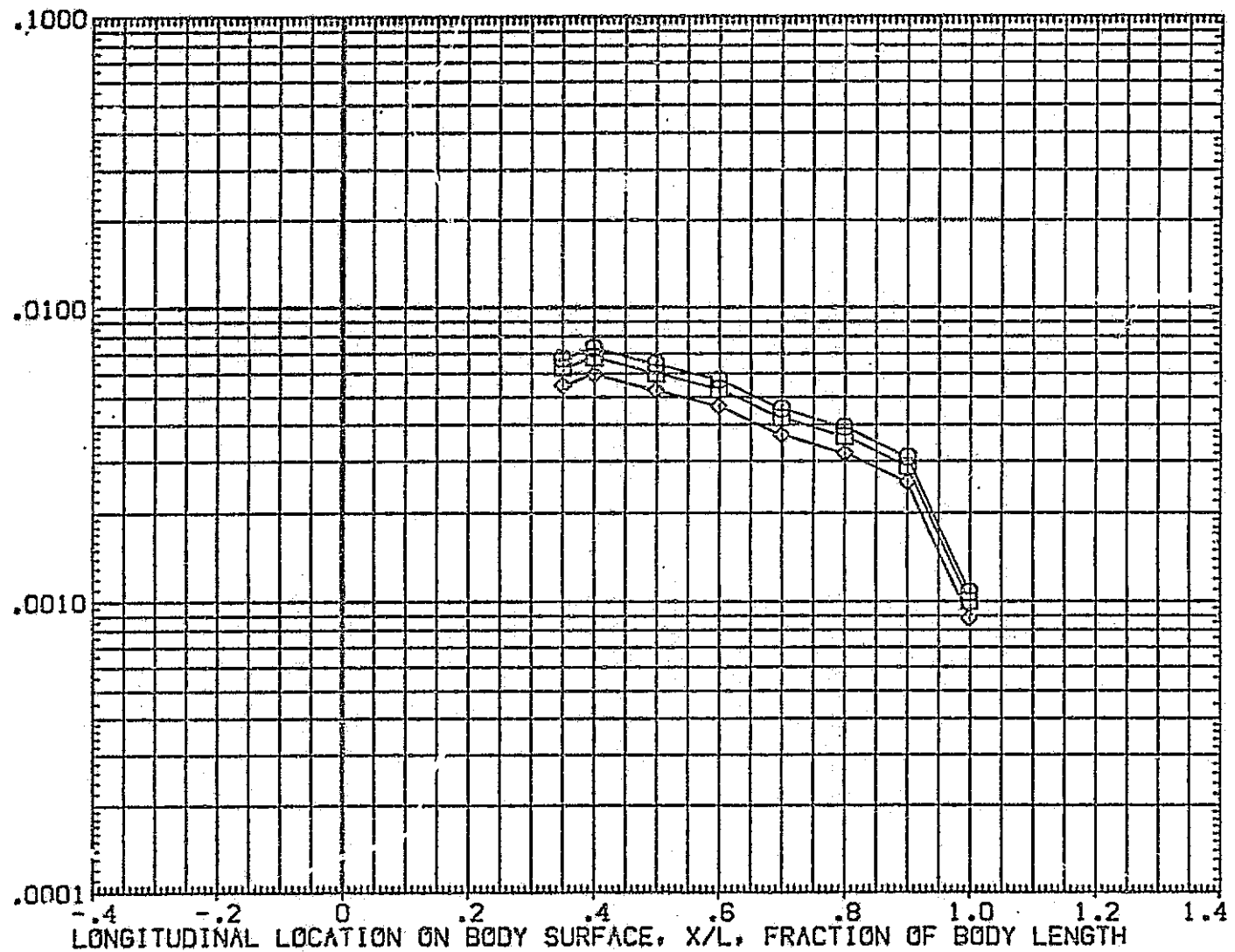


FIG 7 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS ON



IH19 B22C7F5M4V7W111

ORBITER LOWER FUSELAGE (SQEB05)

SYMBOL	HAW/HT	Y(CBP)	ALPHA
◇	.050	.000	10.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L
BLTRIP	.030	MACH
		16.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

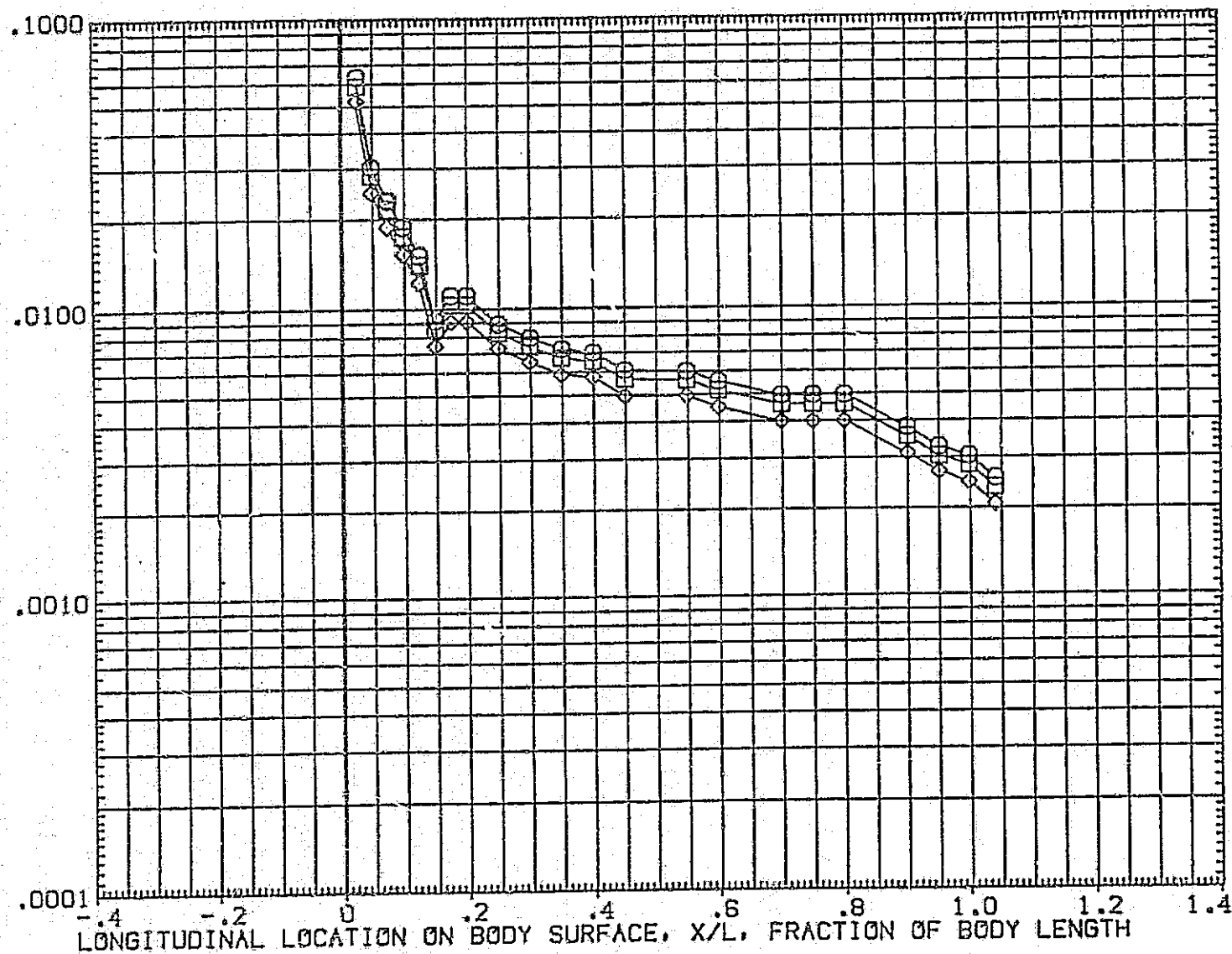


FIG 7 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS ON

IH19 B22C7F5M4V7W111

ORBITER LOWER FUSELAGE (SQEB05)

SYMBOL

HAW/HT

Y(BP)

ALPHA

PARAMETRIC VALUES

BETA

.000

RN/L

.500

BLTRIP

.030

HACH

19.800

◇ □

.850  
.900  
1.000

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

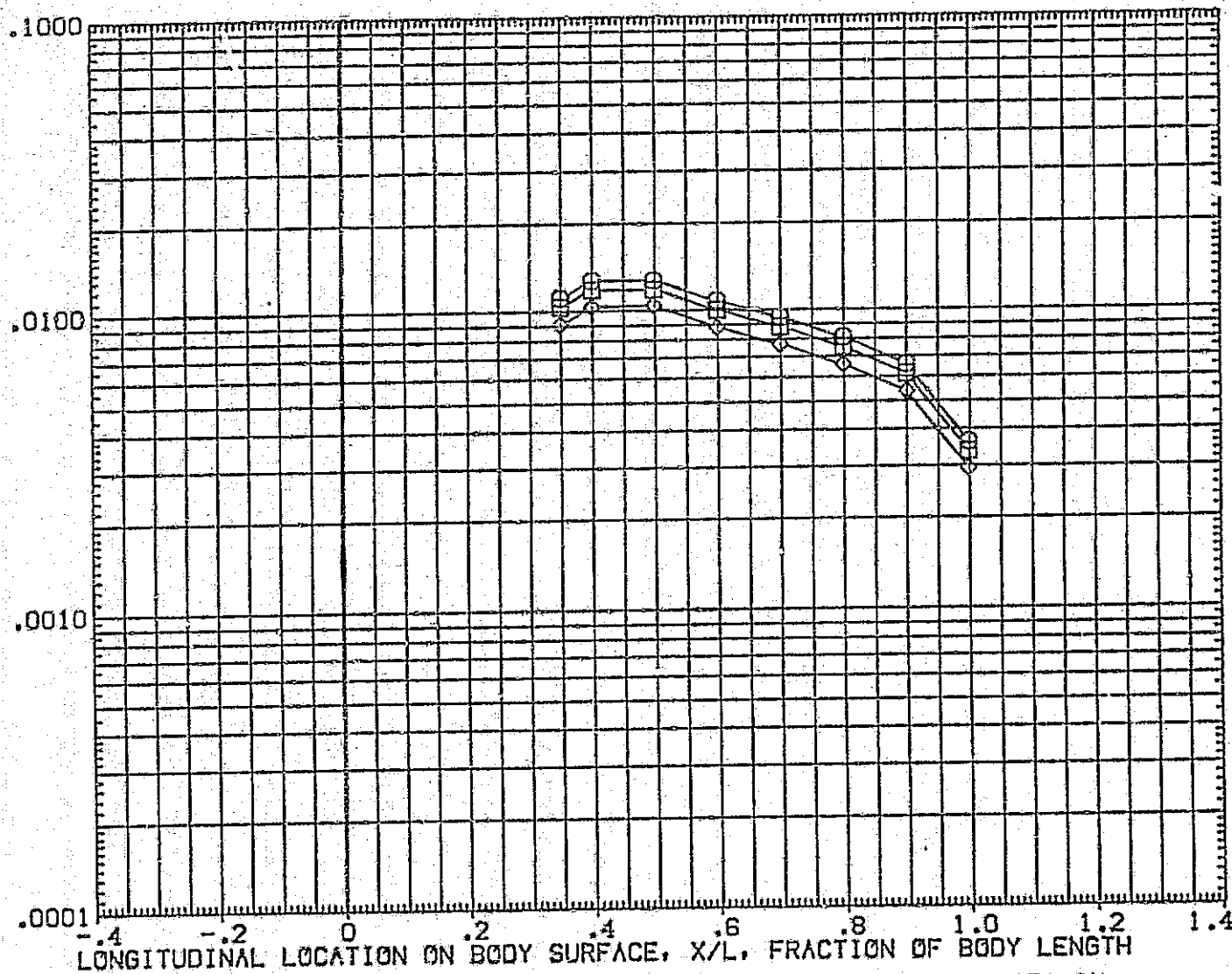


FIG 7 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS ON

IH19 B22C7F5M4V7W111 T8 ORBITER LOWER FUSELAGE (SQEB04)

SYMBOL HAW/HT Y(BP) ALPHA  
 ◇ □ ○ .850 .000 -10.000  
 .900  
 1.000

PARAMETRIC VALUES  
 BETA .000 RN/L .500  
 BLTRIP .030 DELTAH .175  
 MACH 19.600

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

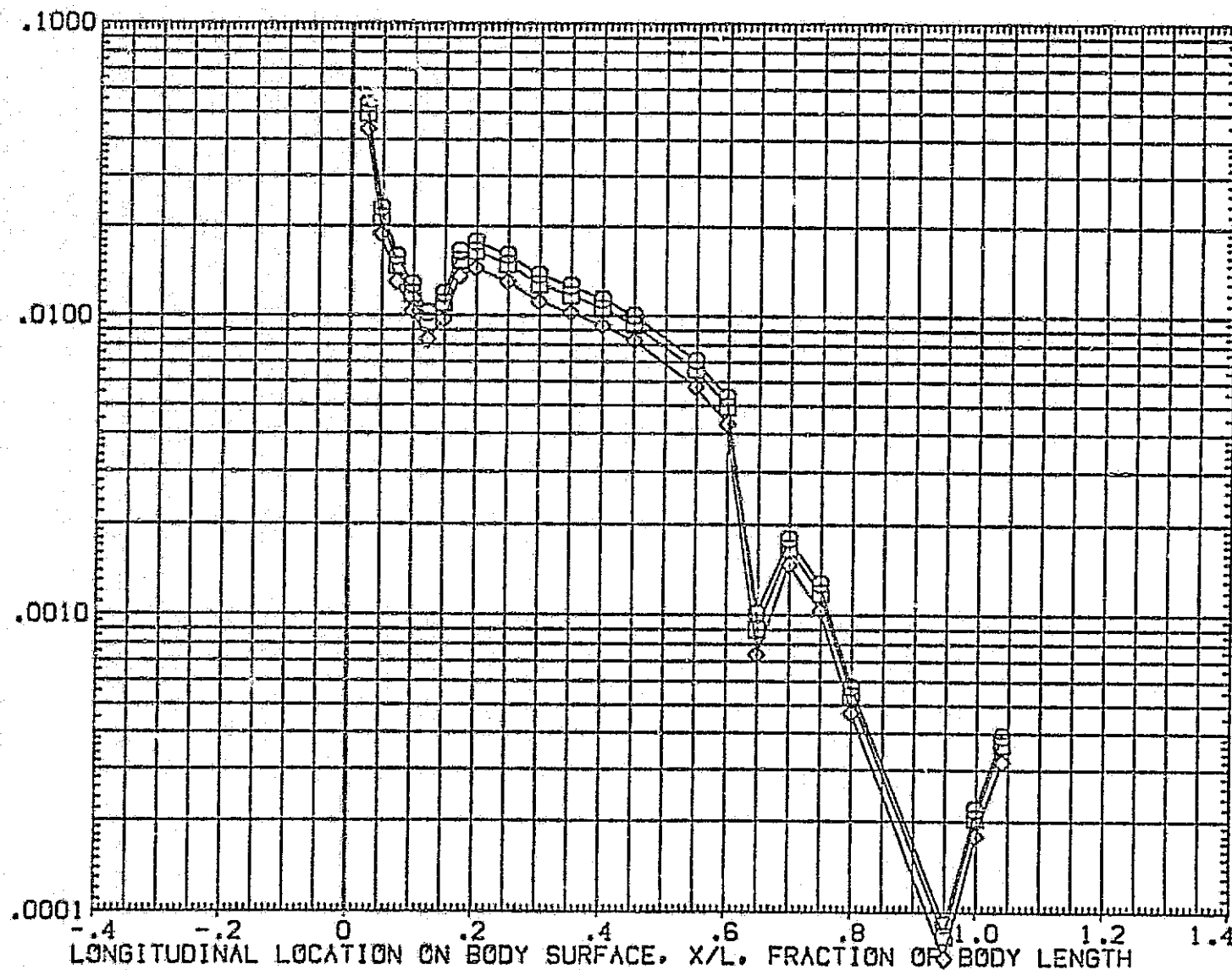


FIG 7 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS ON

IH19 B22C7F5M4V7W111 T8 ORBITER LOWER FUSELAGE (SQEB04)

SYMBOL	HAY/HT	Y(BP)	ALPHA
◇	.850	117.000	-10.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	DELTAH .175
HACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

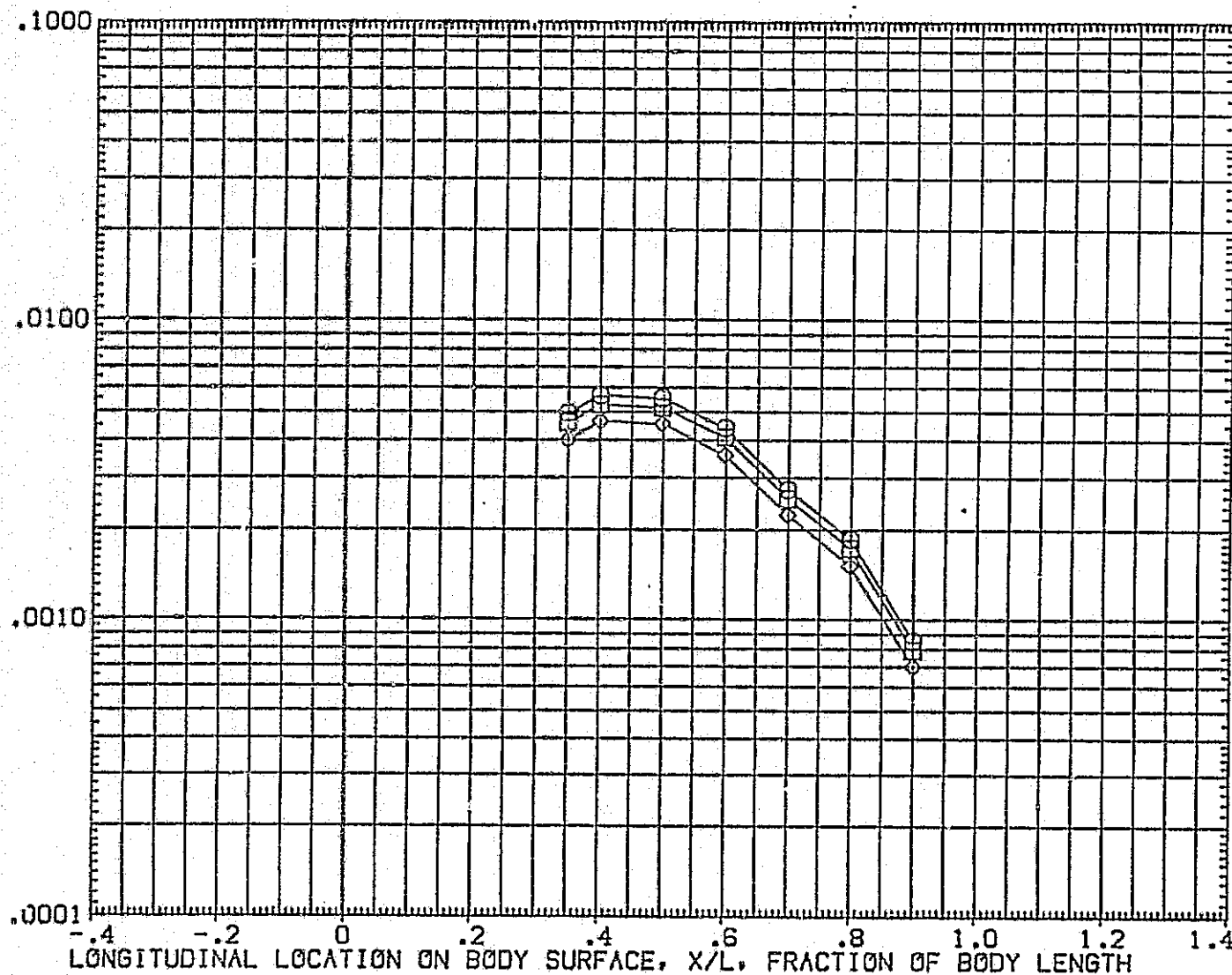


FIG 7 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS ON

IH19 B22C7F5M4V7W111 T8 ORBITER LOWER FUSELAGE (SQEB04)

SYMBOL	HAW/HT	Y(BP)	ALPHA
○	.850	.000	-5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	DELTAH .175
MACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

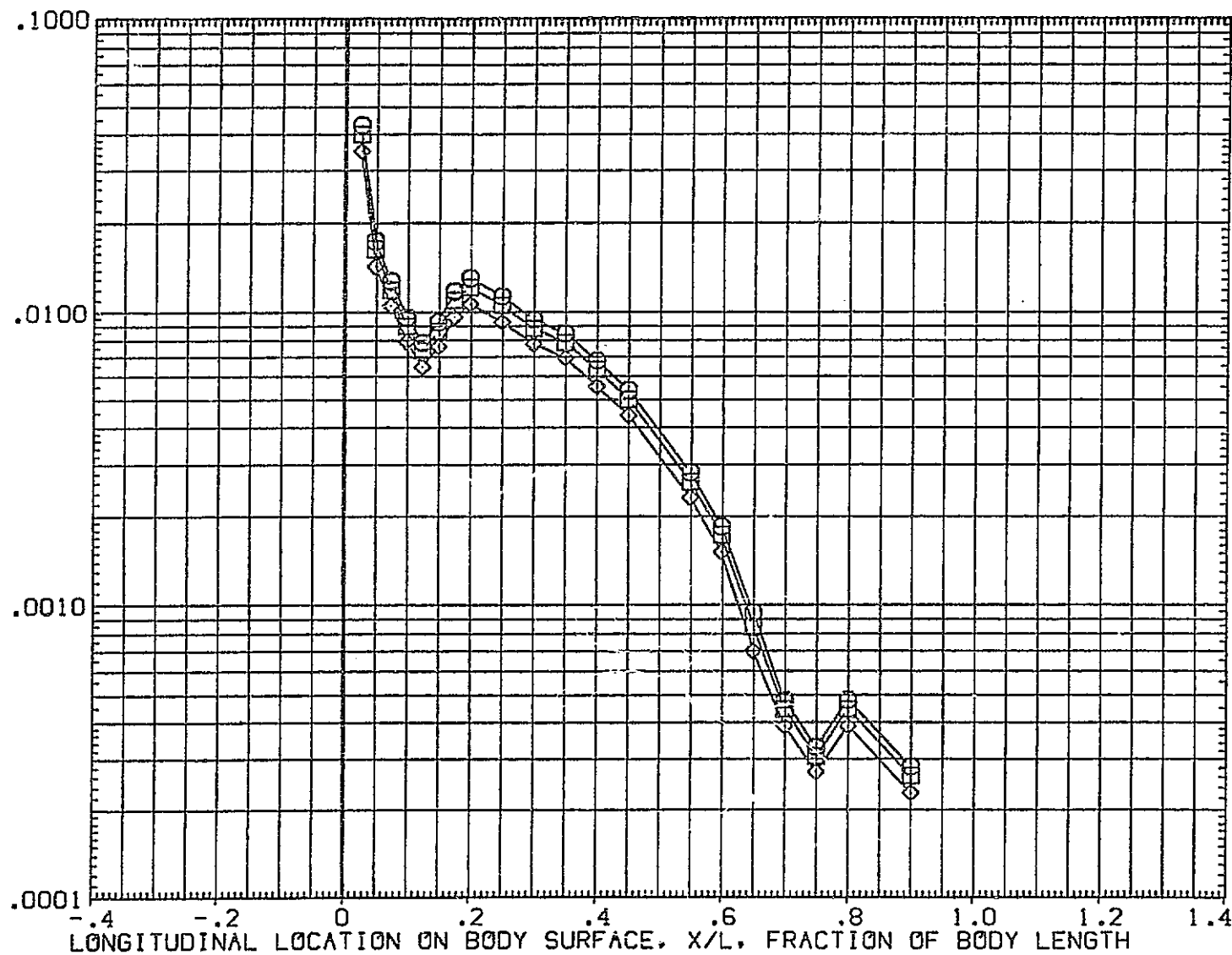


FIG 7 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS ON



IH19 B22C7F5M4V7W111 T8 ORBITER LOWER FUSELAGE (SQEB04)

SYMBOL	HAW/HT	Y(BP)	ALPHA
○	.850	117.000	-5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.030	DELTAH	.175
MACH	19.800		

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$

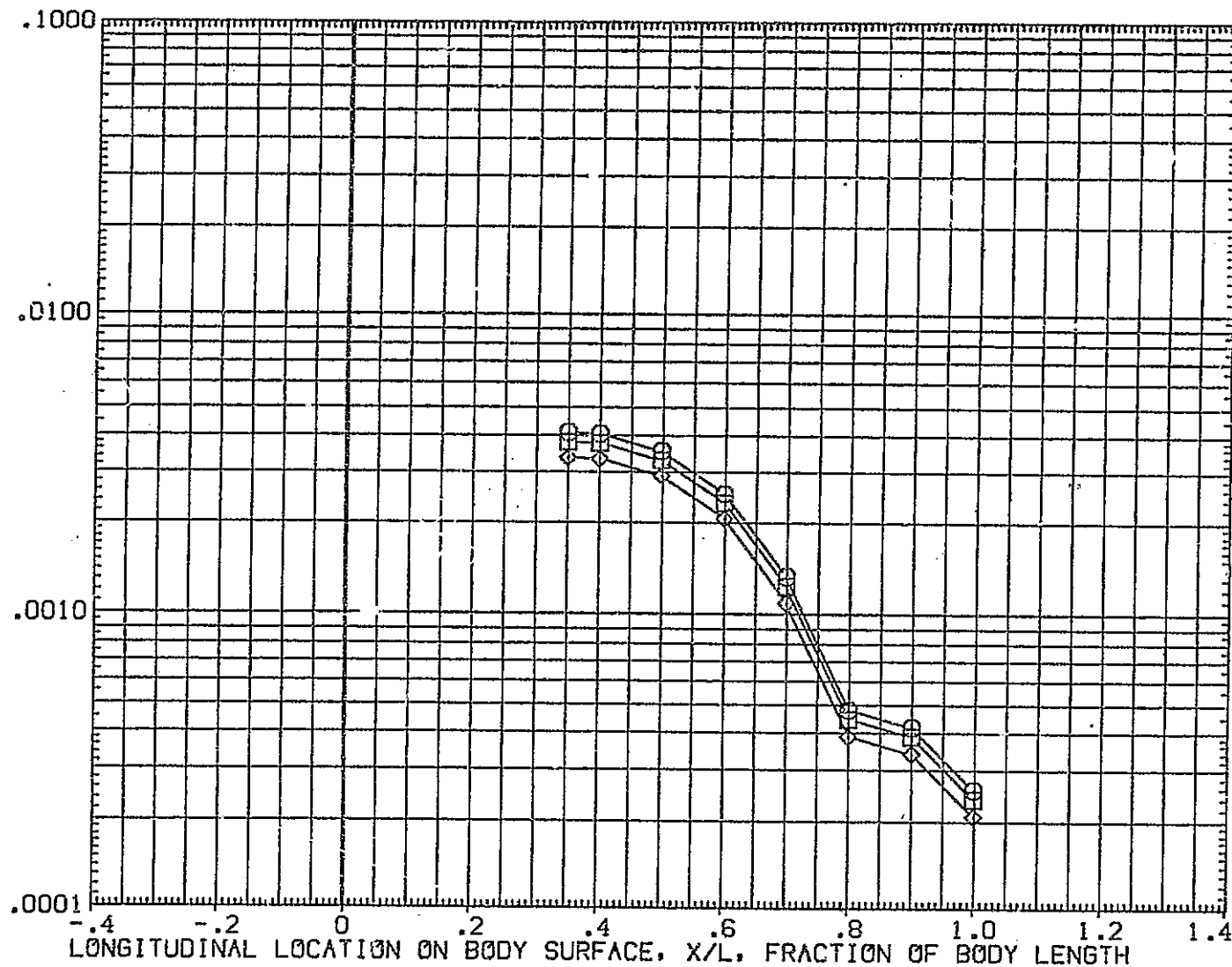


FIG 7 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS ON

IH19 B22C7F5M4V7W111 T8 ORBITER LOWER FUSELAGE (SQEB04)

SYMBOL	HAW/HT	Y(BP)	ALPHA
□	.850	.000	.000
◇	.900		
	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.030	DELTAH	.175
MACH	19.800		

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

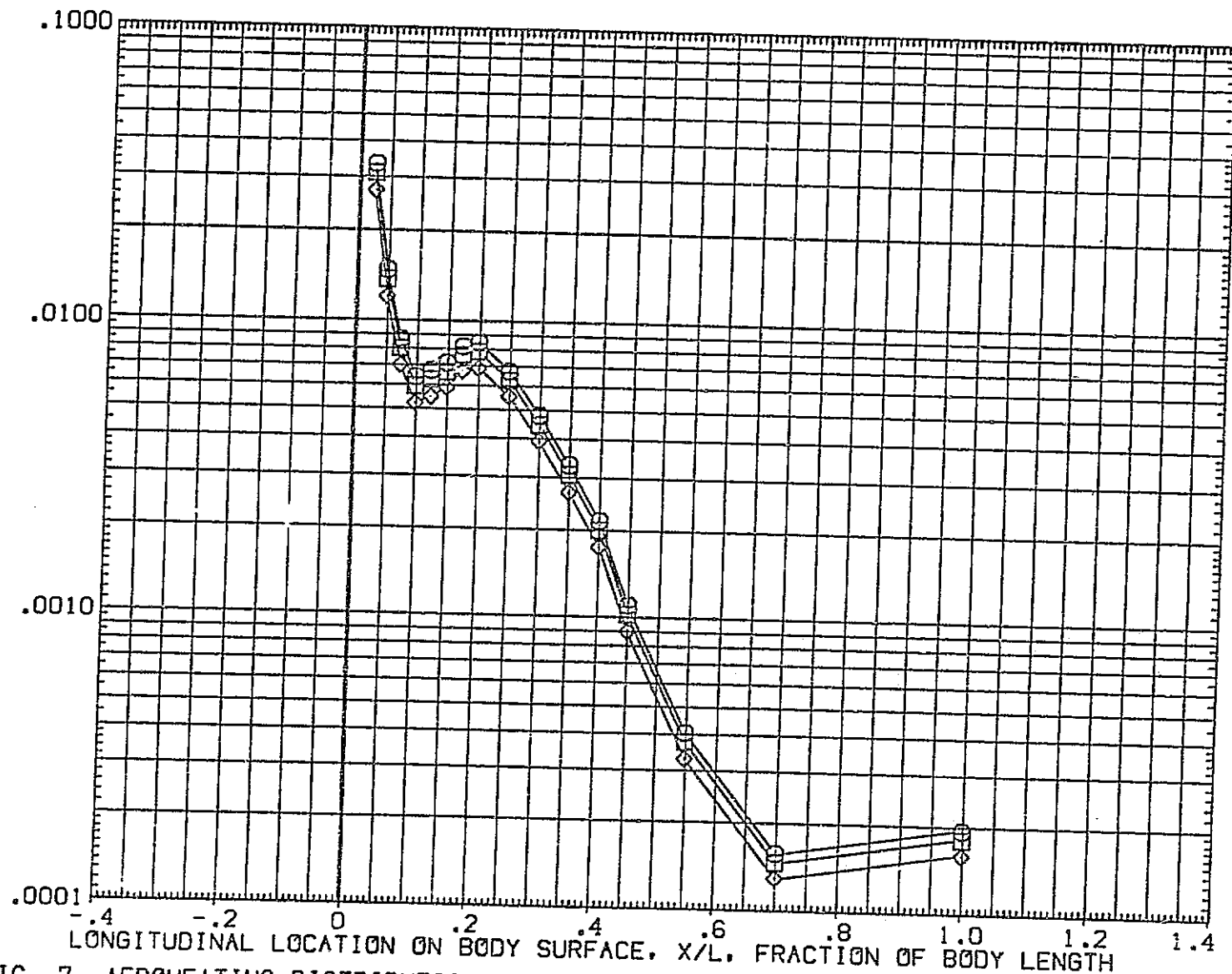


FIG 7 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS ON

IH19 B22C7F5M4V7W111 T8 ORBITER LOWER FUSELAGE (SQEB04)

SYMBOL	HAW/HT	Y(BP)	ALPHA
◇	.850	117.000	.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	DELTAH .175
MACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

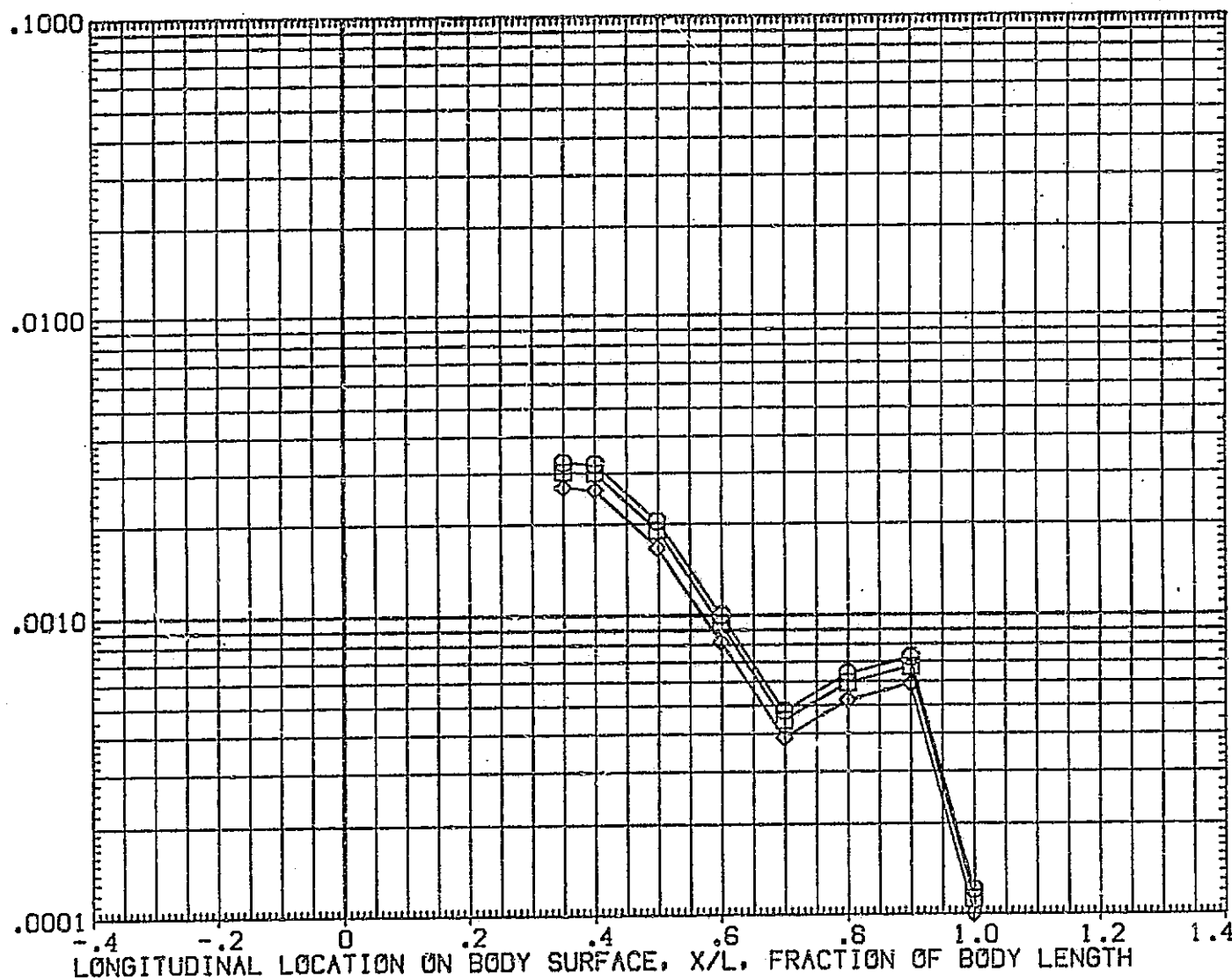


FIG 7 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS ON

IH19 B22C7F5M4V7W111 T8 ORBITER LOWER FUSELAGE (SQEB04)

SYMBOL	HAW/HT	Y(BP)	ALPHA
◇	.850	.000	5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.030	DELTAH	.175
MACH	19.800		

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$

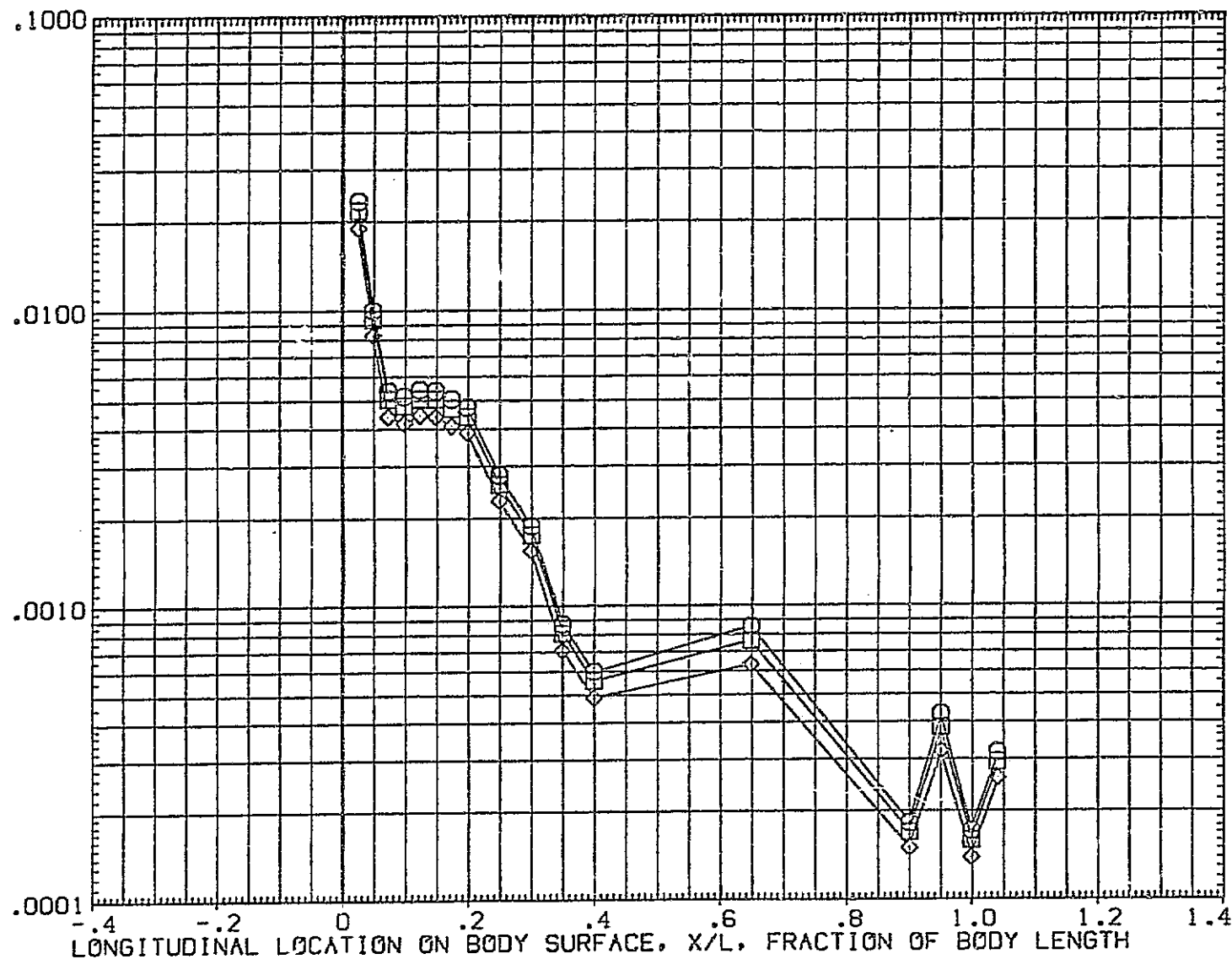


FIG 7 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS ON

# IH19 B22C7F5M4V7W111 T8 ORBITER LOWER FUSELAGE (SQEB04)

SYMBOL	HAW/HT	Y(BP)	ALPHA
◇	.850	117.000	5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	DELTAH .175
MACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

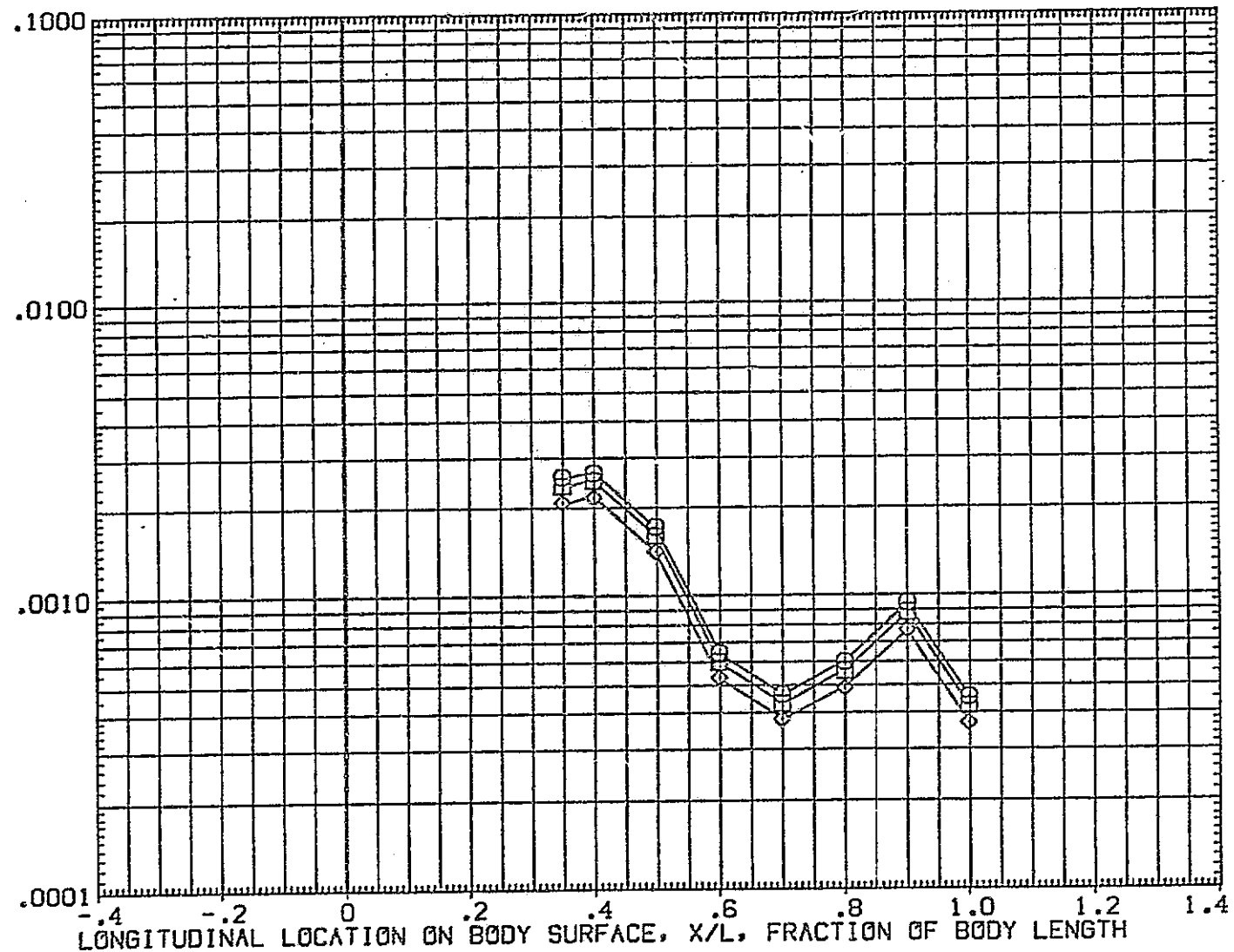


FIG 7 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS ON

# IH19 B22C7F5M4V7W111 T8 ORBITER LOWER FUSELAGE (SQEB04)

SYMBOL	HAW/HT	Y(BP)	ALPHA
◇	.850	.000	10.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	DELTAH .175
MACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

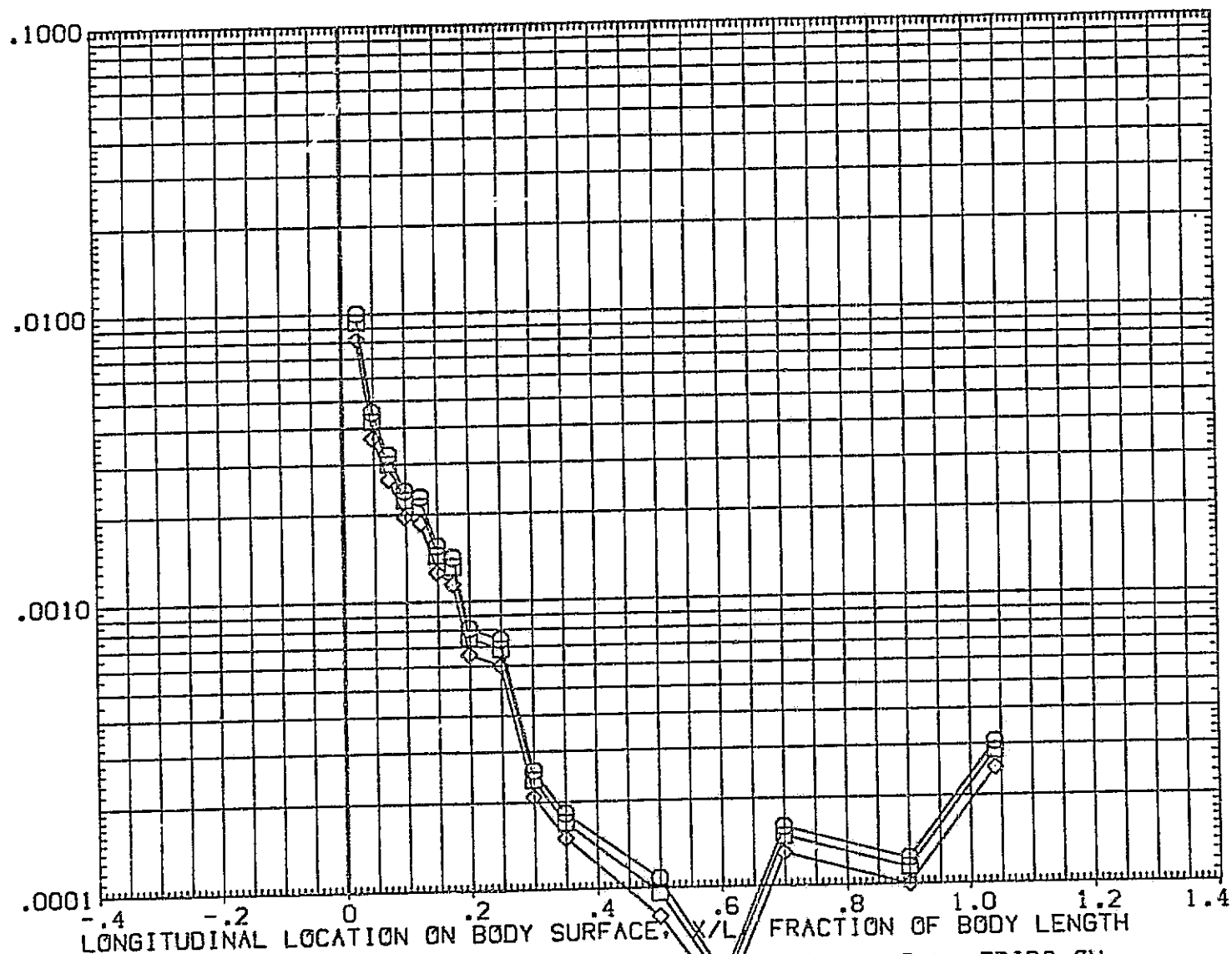


FIG 7 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS ON

IF19 B22C7F5M4V7W111 T8 ORBITER LOWER FUSELAGE (SQEBO4)

SYMBOL	HAW/HT	%BPJ	ALPHA
◇	.850	117.000	10.000
□	.900		
○	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.030	DELTAH	.175
NACH	19.800		

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

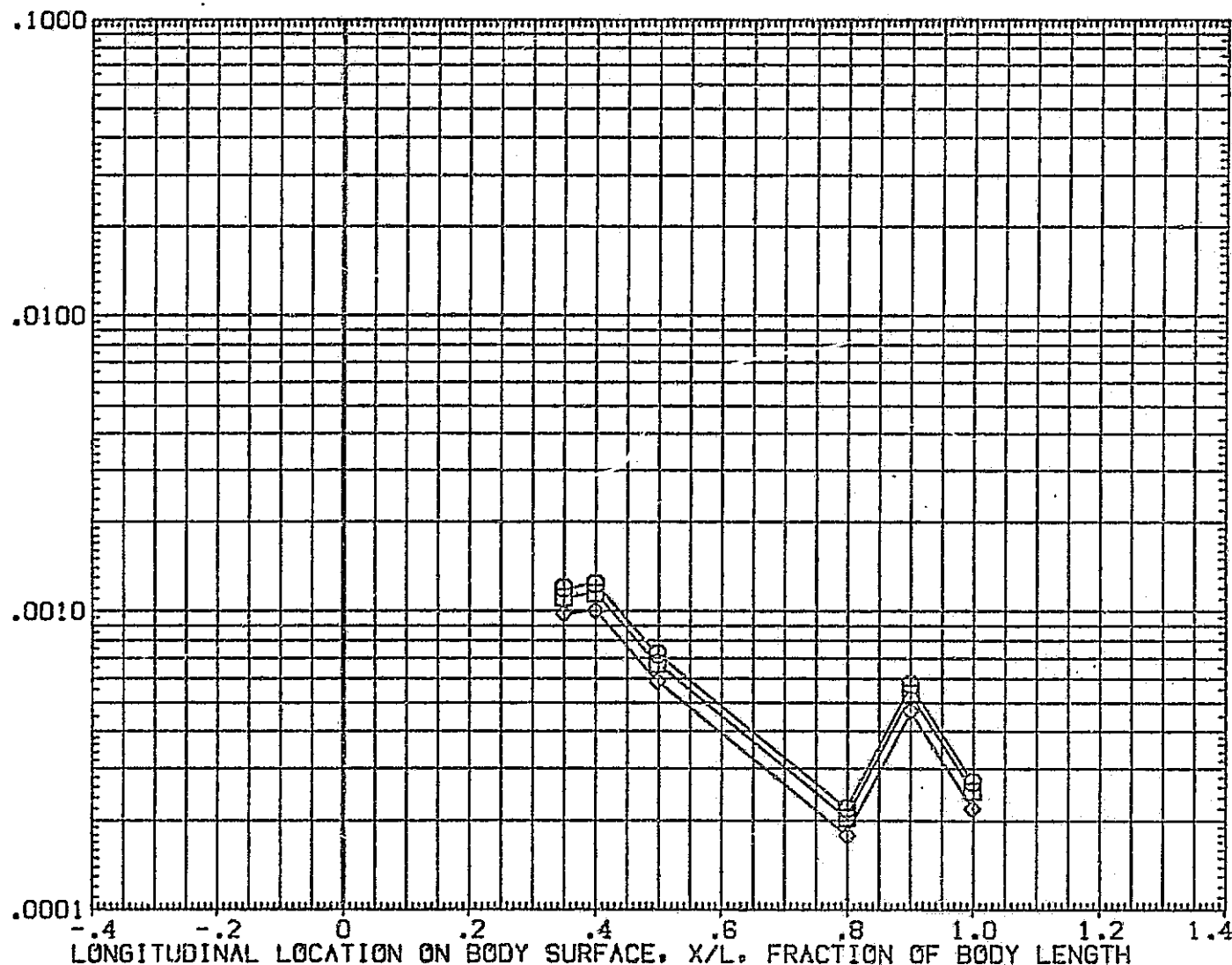


FIG 7 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS ON

# IH19 RATIO (ORB+TANK)/ORB ORBITER LOWER FUSELAGE (EQEB04)

SYMBOL    HAW/HT    Y(BP)    ALPHA  
 ◇    .850    .000    -10.000  
 □    .900  
 ◇    1.000

BETA  
 MACH

PARAMETRIC VALUES  
 .000    RN/L  
 19.800

.500

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $HI/HU$

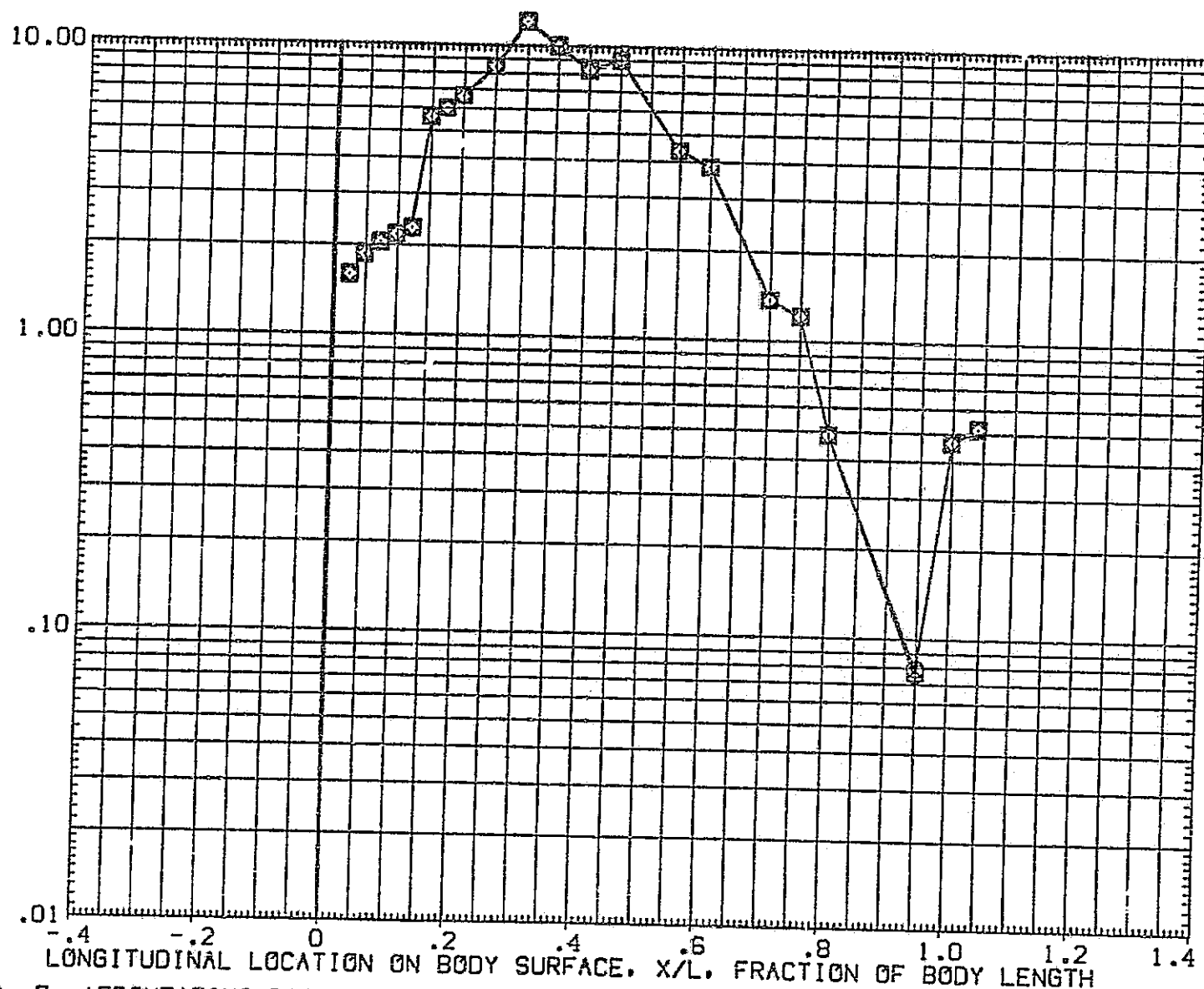


FIG 7 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS ON



# IH19 RATIO (ORB+TANK)/ORB ORBITER LOWER FUSELAGE (EQEBO4)

SYMBOL	HAW/HT	Y(BP)	ALPHA
◇	.850	117.000	-10.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RM/L
HACH	19.800	.500

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.. HI/HU

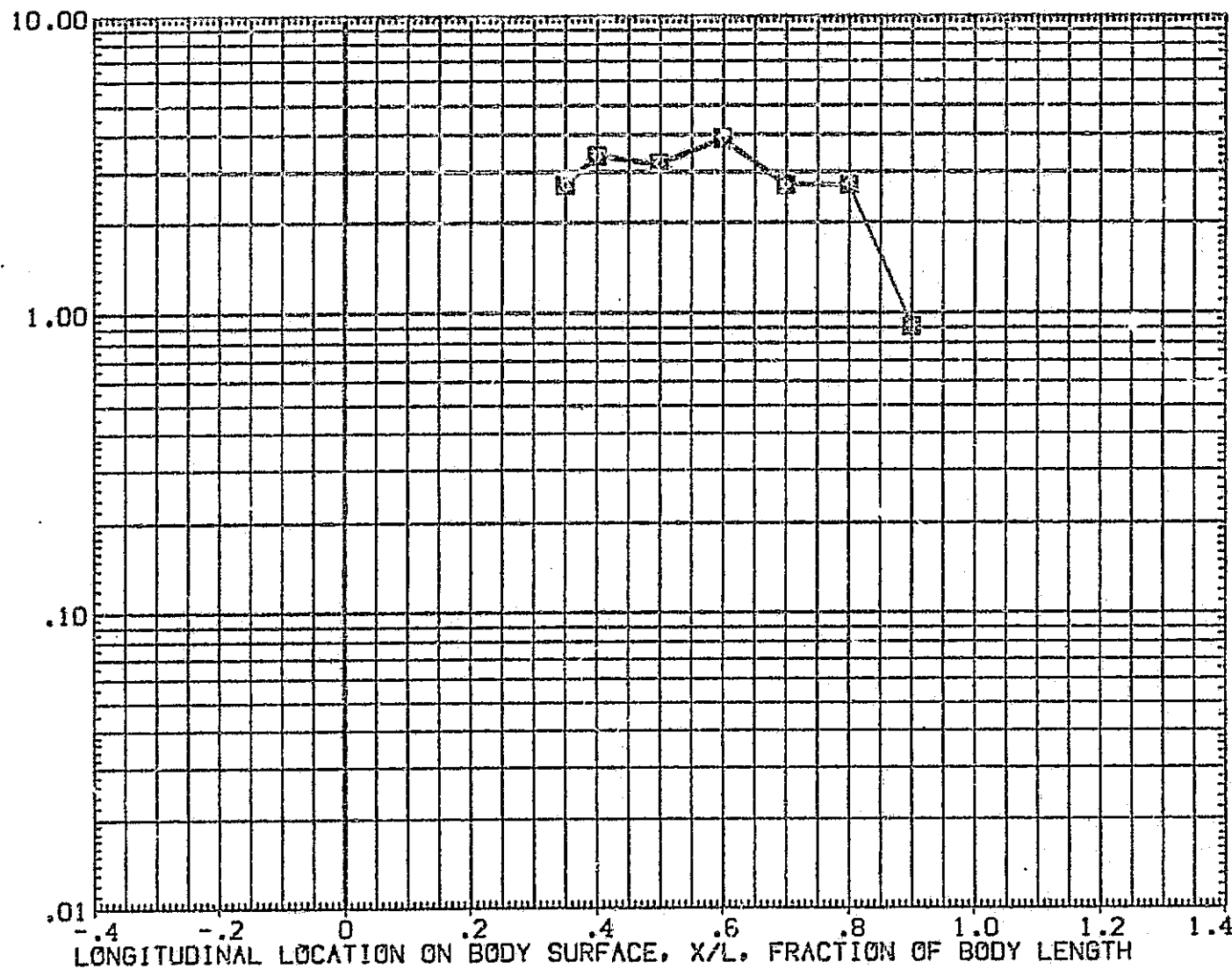


FIG 7 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS ON

# IH19 RATIO (ORB+TANK)/ORB ORBITER LOWER FUSELAGE (EQEB04)

SYMBOL  
 ○  
 □  
 ◇

HAN/HT  
 .850  
 .900  
 1.000

Y(BP)  
 .000

ALPHA  
 -5.000

BETA  
 MACH

PARAMETRIC VALUES  
 .000 RN/L  
 19.800

.500

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF. HI/HU

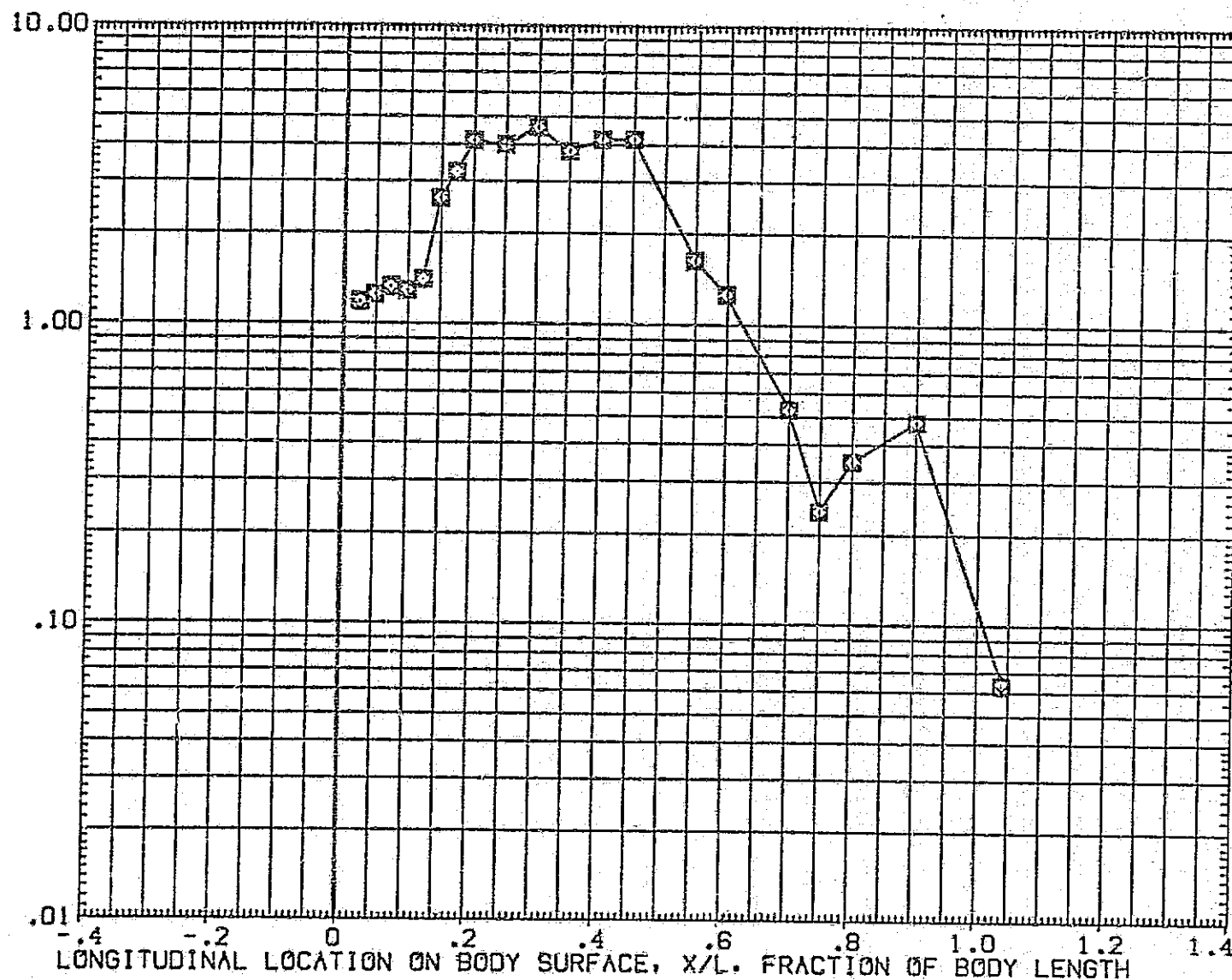


FIG 7 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS ON

# IH19 RATIO (ORB+TANK)/ORB ORBITER LOWER FUSELAGE (EQEB04)

SYMBOL	HAW/HIT	Y(BP)	ALPHA
○	.850	117.000	-5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L
HACH	19.800	.500

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.. HI/HU

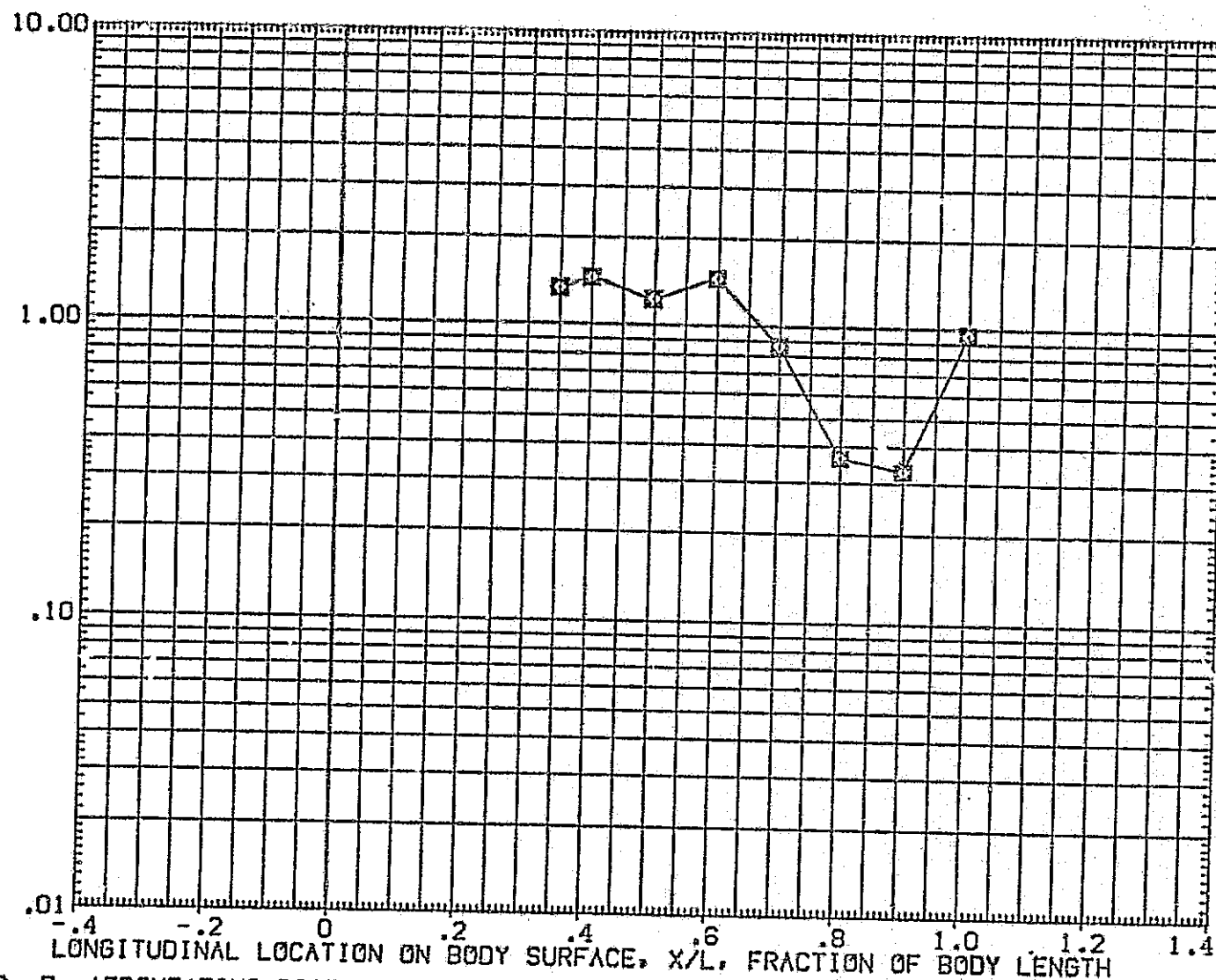


FIG 7 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS ON

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

# IH19 RATIO (ORB+TANK)/ORB ORBITER LOWER FUSELAGE(EQEB04)

SYMBOL	HAW/HT	Y(EP)	ALPHA
□	.850	.000	.000
◇	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	RN/L	
MACH	.000	.500
	19.800	

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.. HI/HU

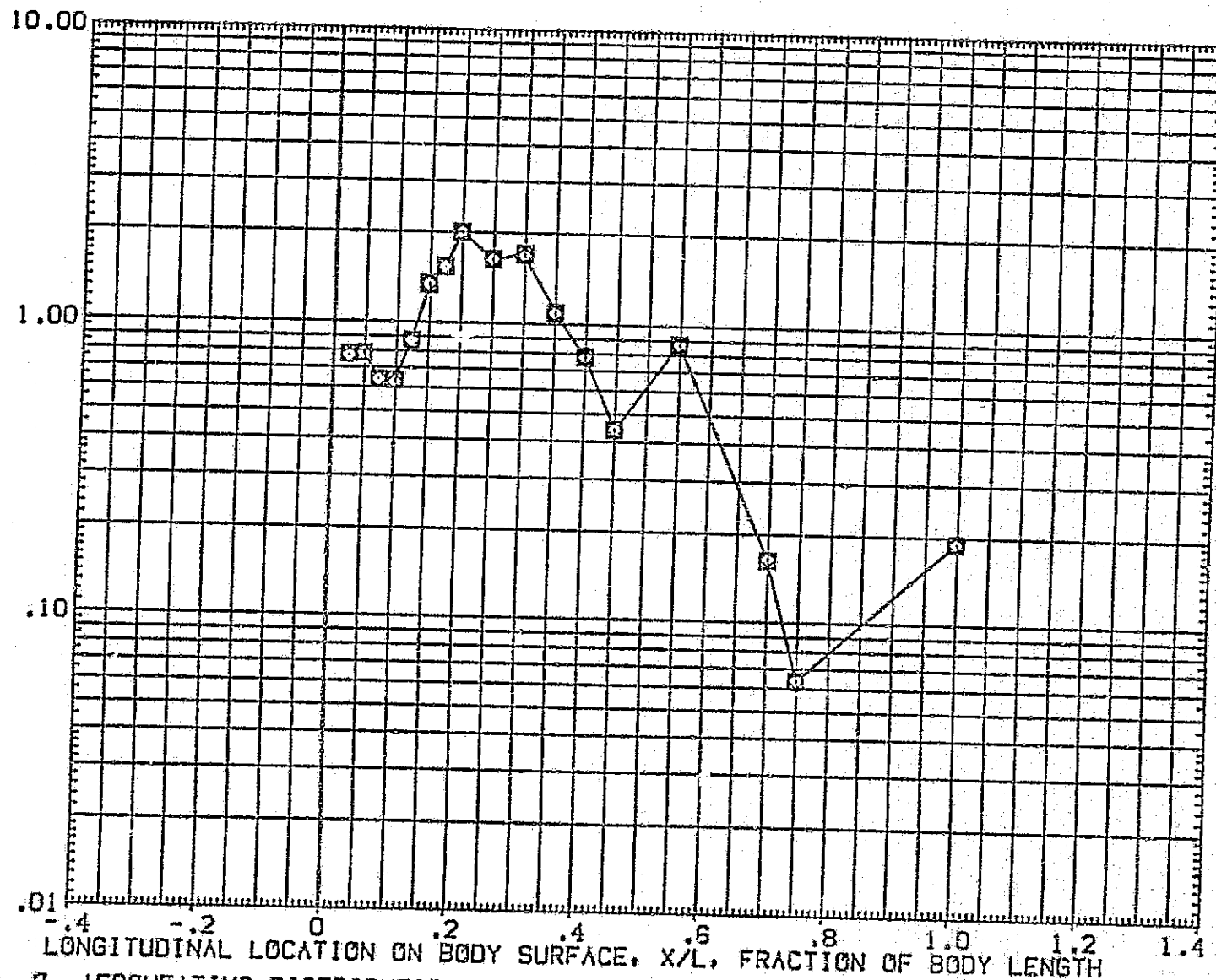


FIG 7 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS ON

# IH19 RATIO (ORB+TANK)/ORB ORBITER LOWER FUSELAGE (EQEB04)

SYMBOL	HAW/HI	Y(EP)	ALPHA
◇◇◇	.650	117.000	.000
	.900		
	1.000		

PARAMETRIC VALUES		
BETA	.000	RM/L
HACH	19.800	

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.  $H_i/H_u$

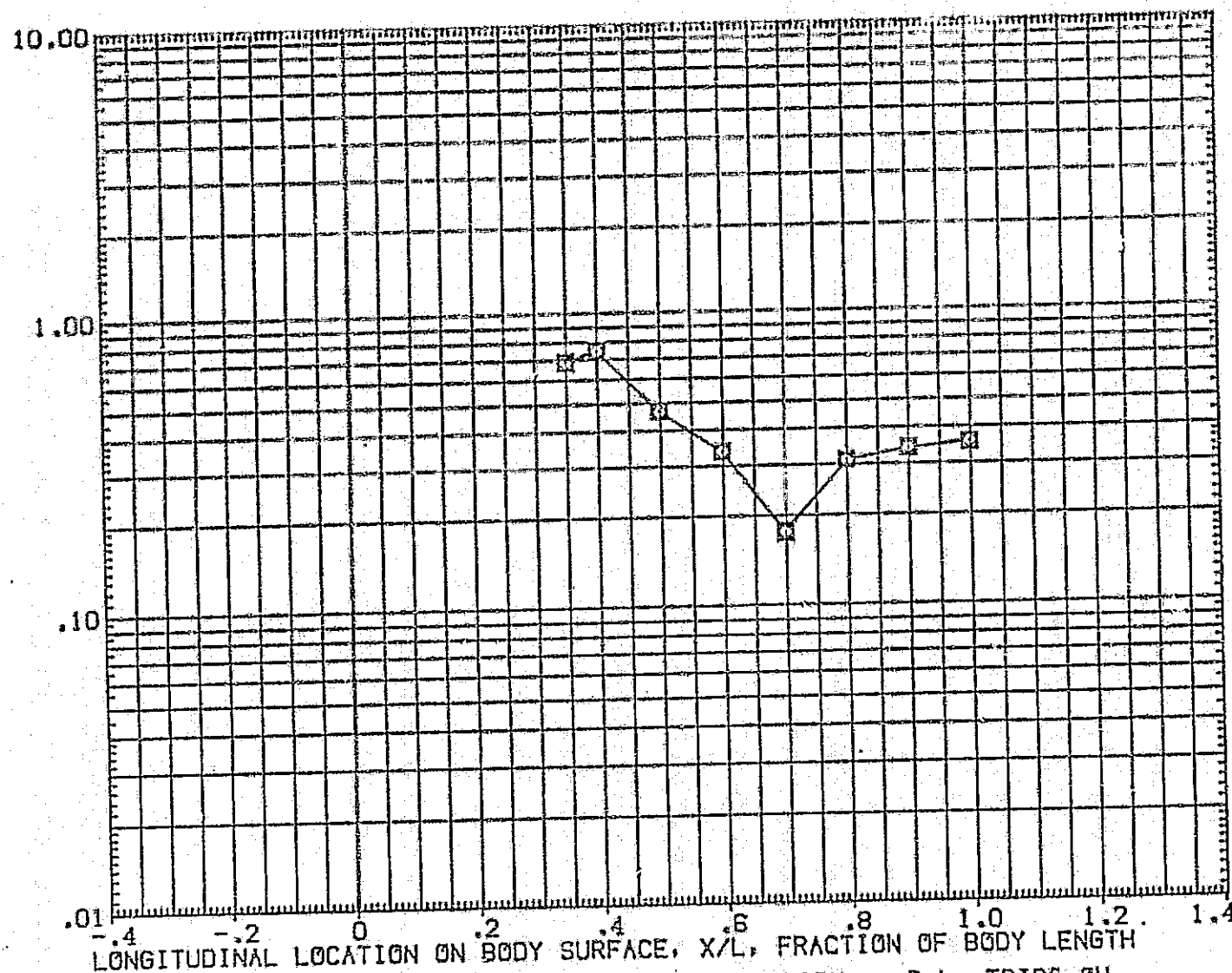


FIG 7 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS ON

# IH19 RATIO (ORB+TANK)/ORB ORBITER LOWER FUSELAGE (EQEB04)

SYMBOL	HAW/HT	Y(BP)	ALPHA
◇	.850	.000	5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RM/L
MACH	19.800	.500

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF., HI/HU

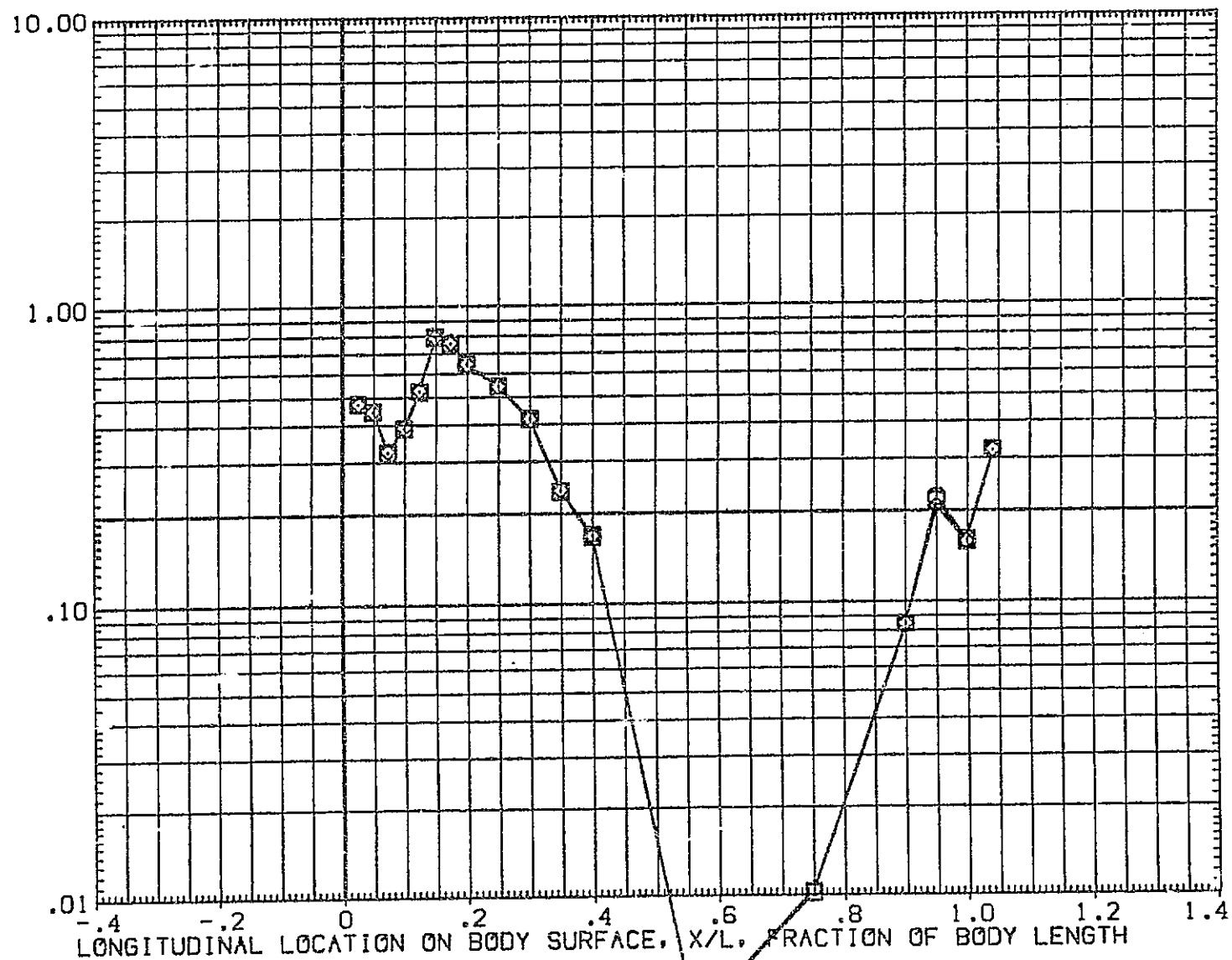


FIG 7 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS ON

# IH19 RATIO (ORB+TANK)/ORB ORBITER LOWER FUSELAGE(EQEB04)

SYMBOL	HAW/HT	Y(BP)	ALPHA
○	.850	117.000	5.000
□	.900		
◇	1.000		

BETA  
HACH

PARAMETRIC VALUES

.000  
19.800

RN/L

.500

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.. HI/HU

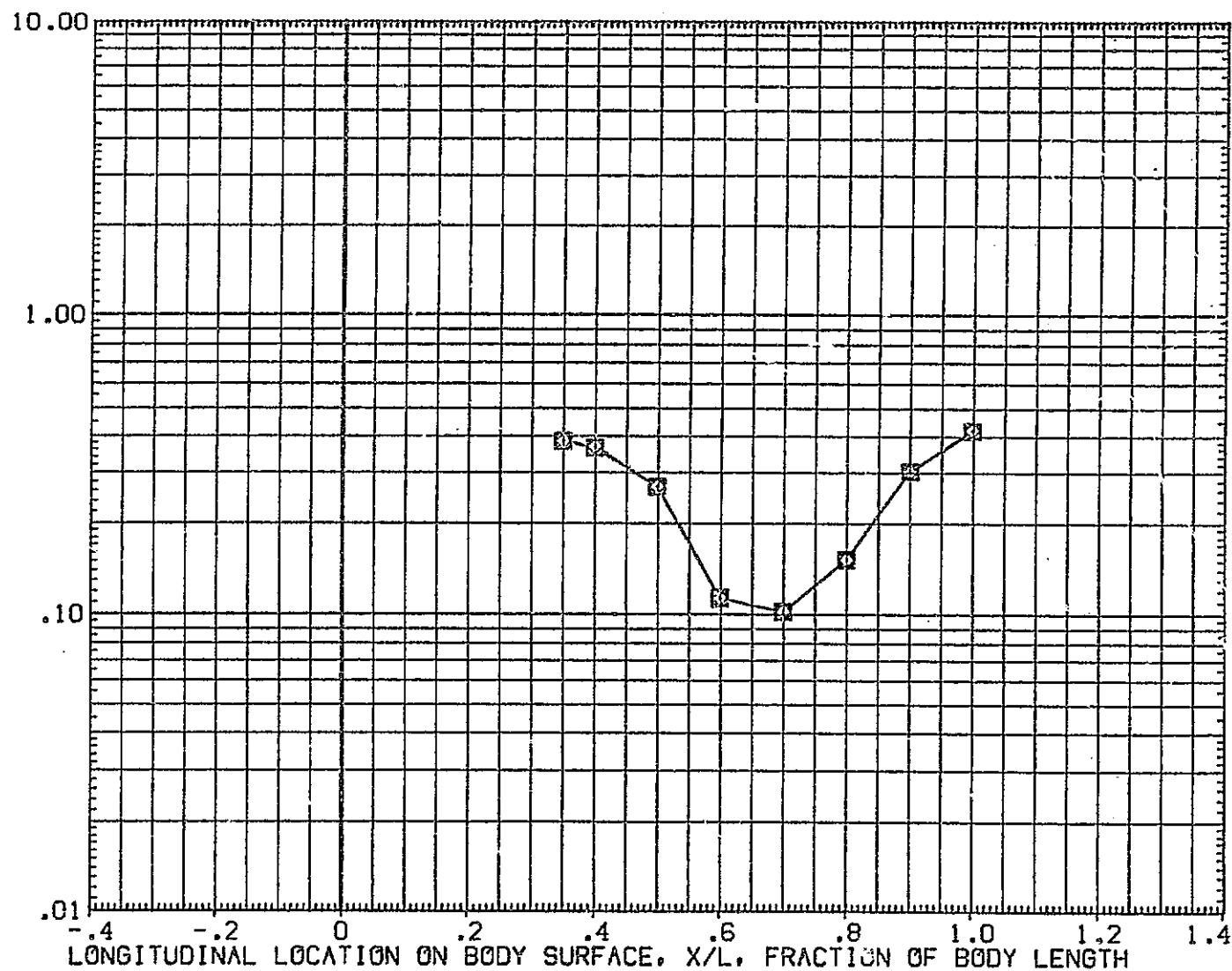


FIG 7 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS ON

# IH19 RATIO (ORB+TANK)/ORB ORBITER LOWER FUSELAGE(EQEB04)

SYMBOL	HAW/HT	Y(B <sup>2</sup> )	ALPHA	BETA	PARAMETRIC VALUES	RN/L	.500
○	.850	.000	10.000	MACH	.000	19.800	
◇	.900						
◇	1.000						

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF., HI/HU

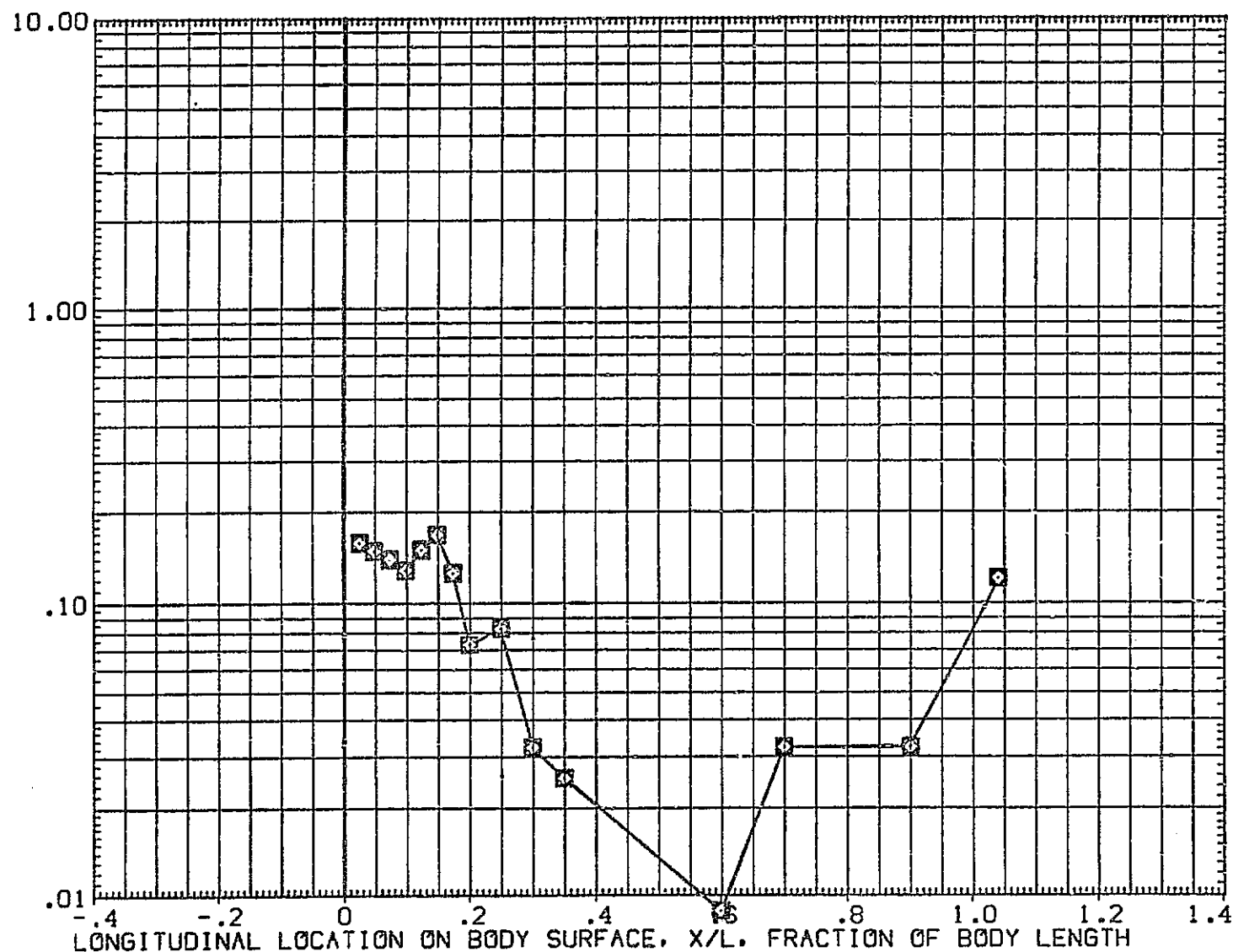


FIG 7 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS ON



## IH19 RATIO (ORB+TANK)/ORB ORBITER LOWER FUSELAGE (EQEB04)

SYMBOL	HAW/HT	Y(BP)	ALPHA
◇	.850	117.000	10.000
□	.900		
□	1.000		

PARAMETRIC VALUES		
BETA	RN/L	
.000		.500
MACH	19.800	

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.. HI/HU

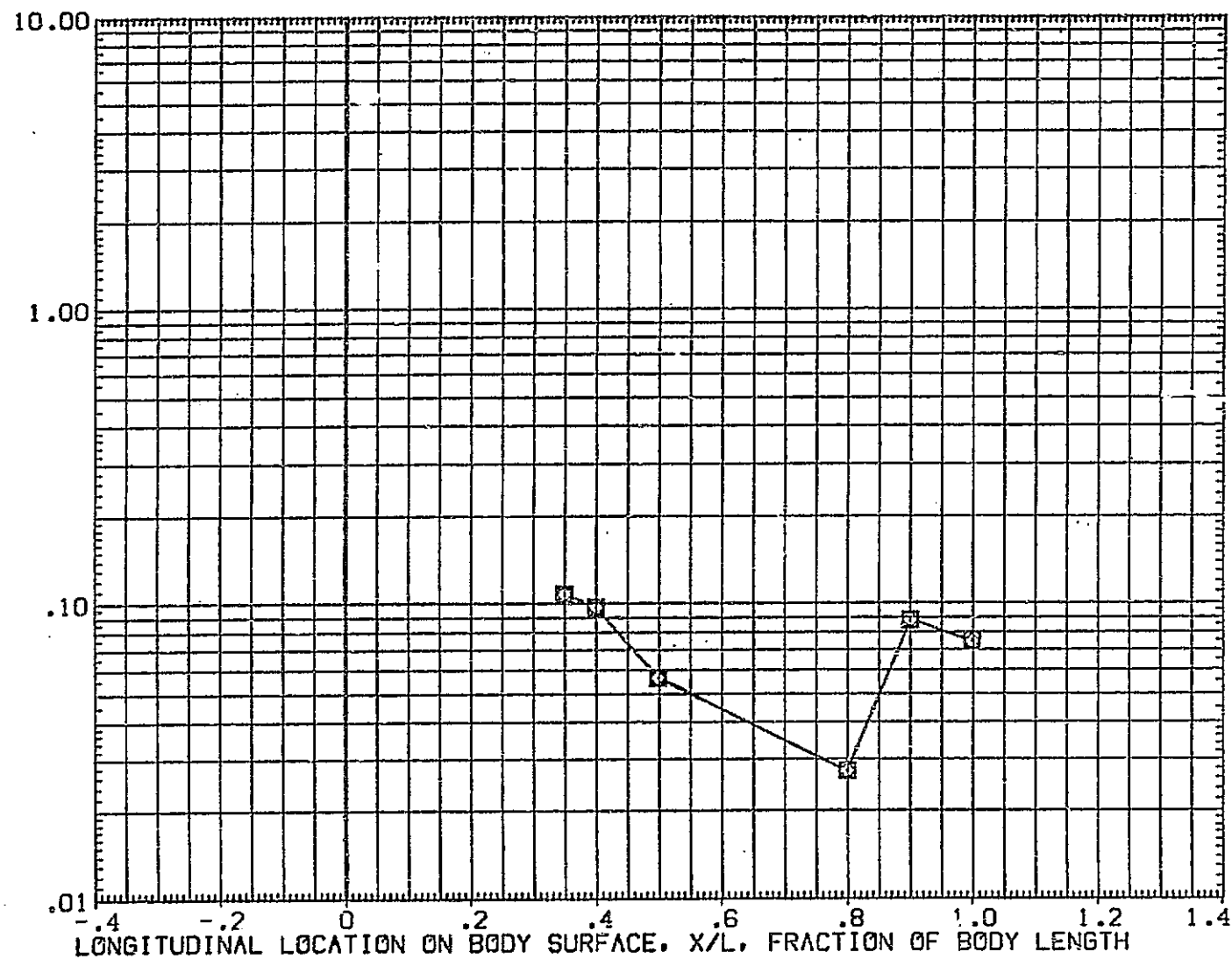


FIG 7 AEROHEATING DISTRIBUTION ON ORBITER LOWER BODY - B.L. TRIPS ON

IH19 B22C7F5M4V7W111

ORBITER LOWER WING

(RQEW06)

SYMBOL	HAW/HT	2Y/B	ALPHA
□	.850	.400	-10.000
◇	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

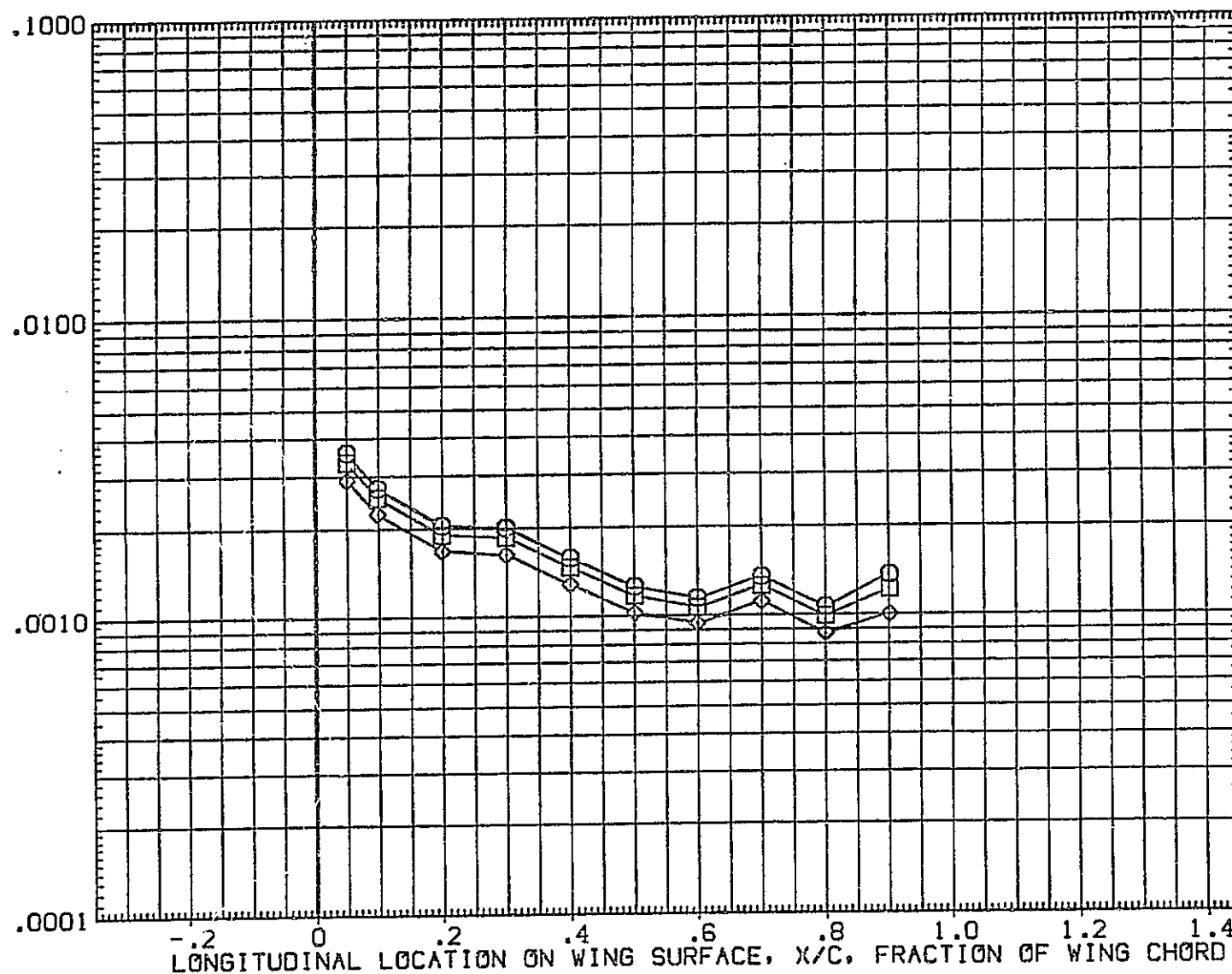


FIG 8 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS OFF

IH19 B22C7F5M4V7W111

ORBITER LOWER WING

(RQEW06)

SYMBOL	HAW/HT	2Y/B	ALPHA
○	.950	.600	-10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RH/L .500
BLTRIP	.000	HACH 19.800

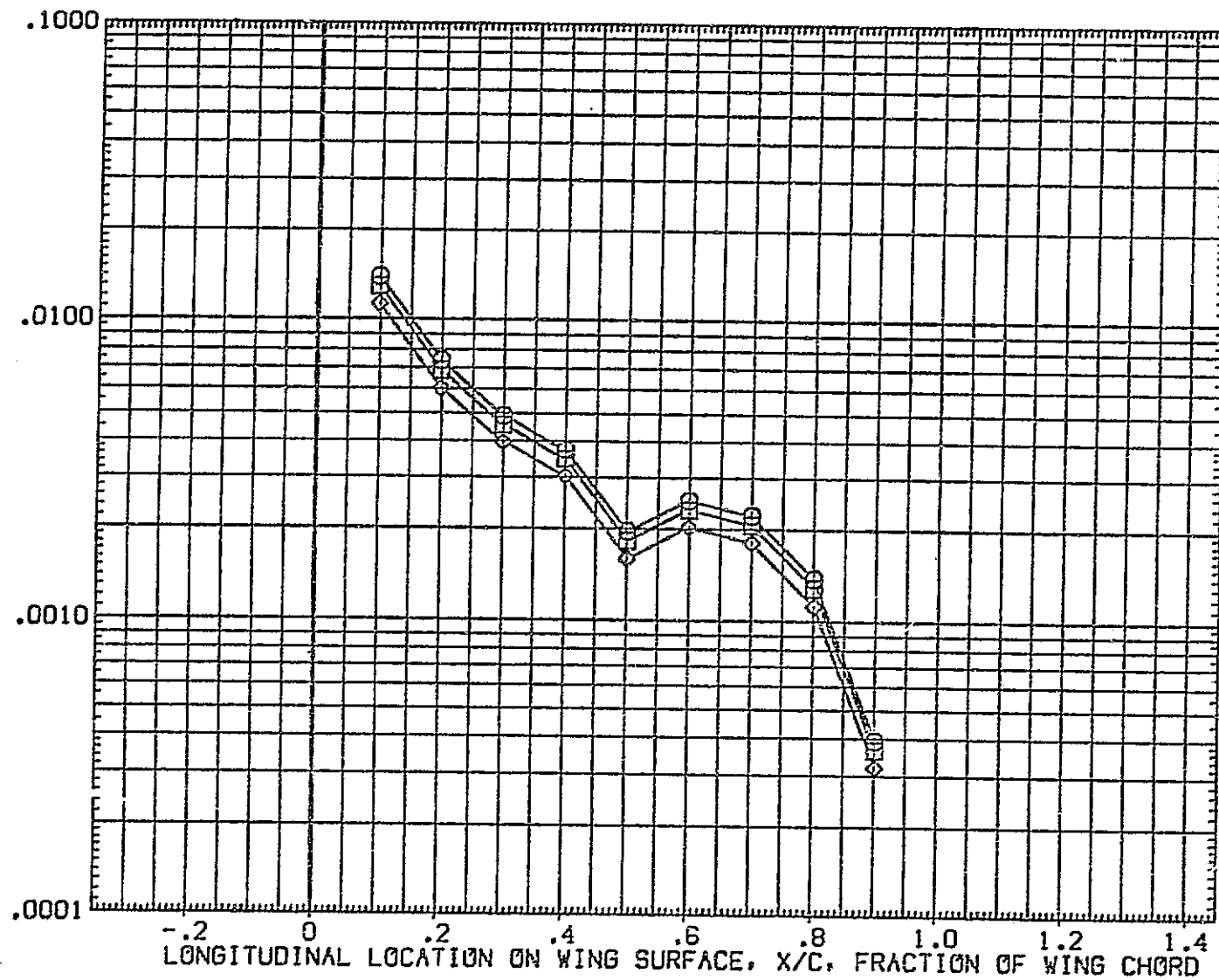
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 8 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS OFF

IH19 B22C7F5M4V7W111

ORBITER LOWER WING

(RQEW06)

SYMBOL

HAW/HT

2Y/B

ALPHA

PARAMETRIC VALUES

BETA

.000

RN/L

.500

BLTRIP

.000

MACH

19.900

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

○  
 □  
 ◇

.650  
 .900  
 1.000

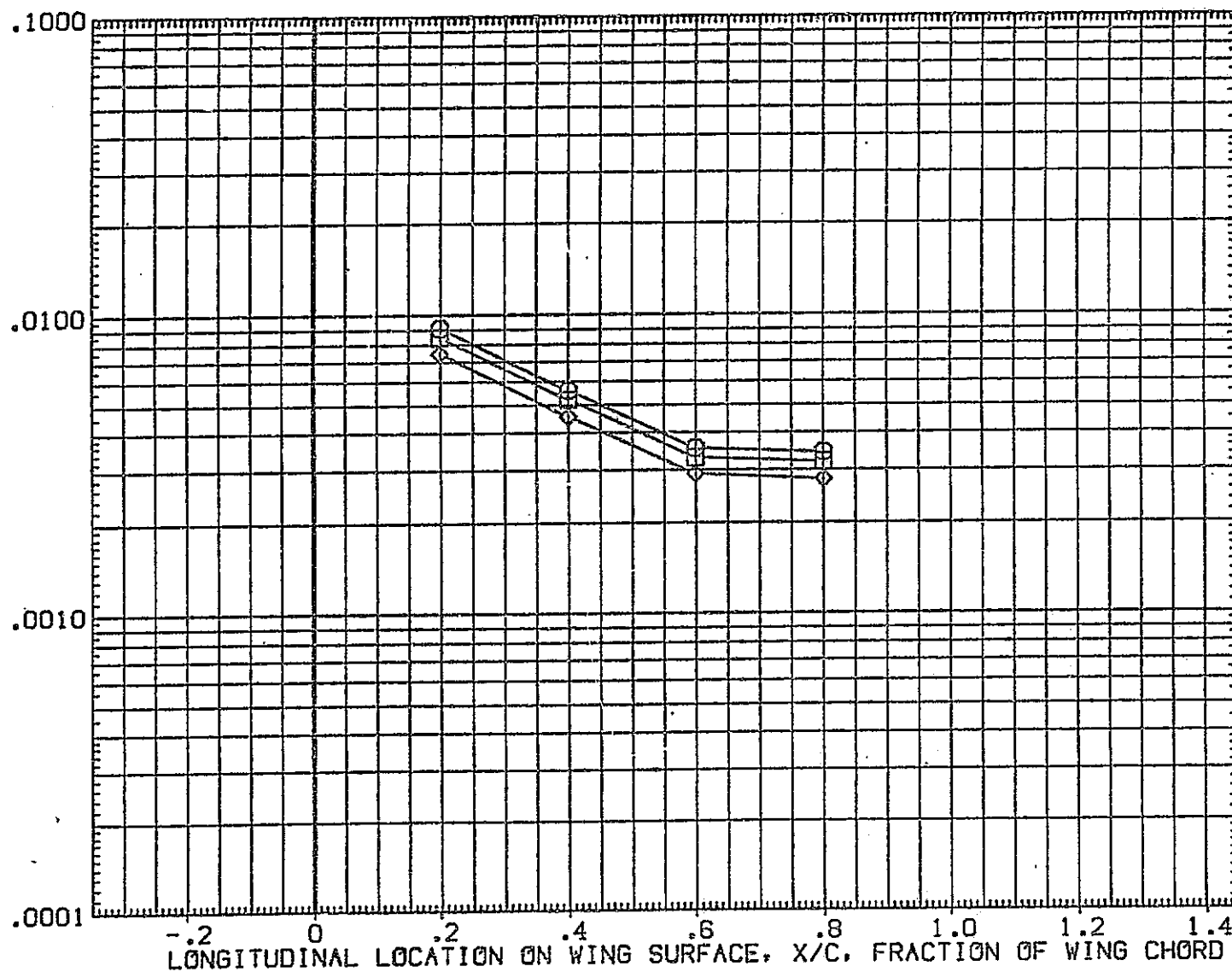


FIG 8 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS OFF

IH19 B22C7F5M4V7W111

ORBITER LOWER WING

(RQEW06)

SYMBOL	HAW/HT	2Y/B	ALPHA
◇	.850	.400	-5.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	HACH 19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

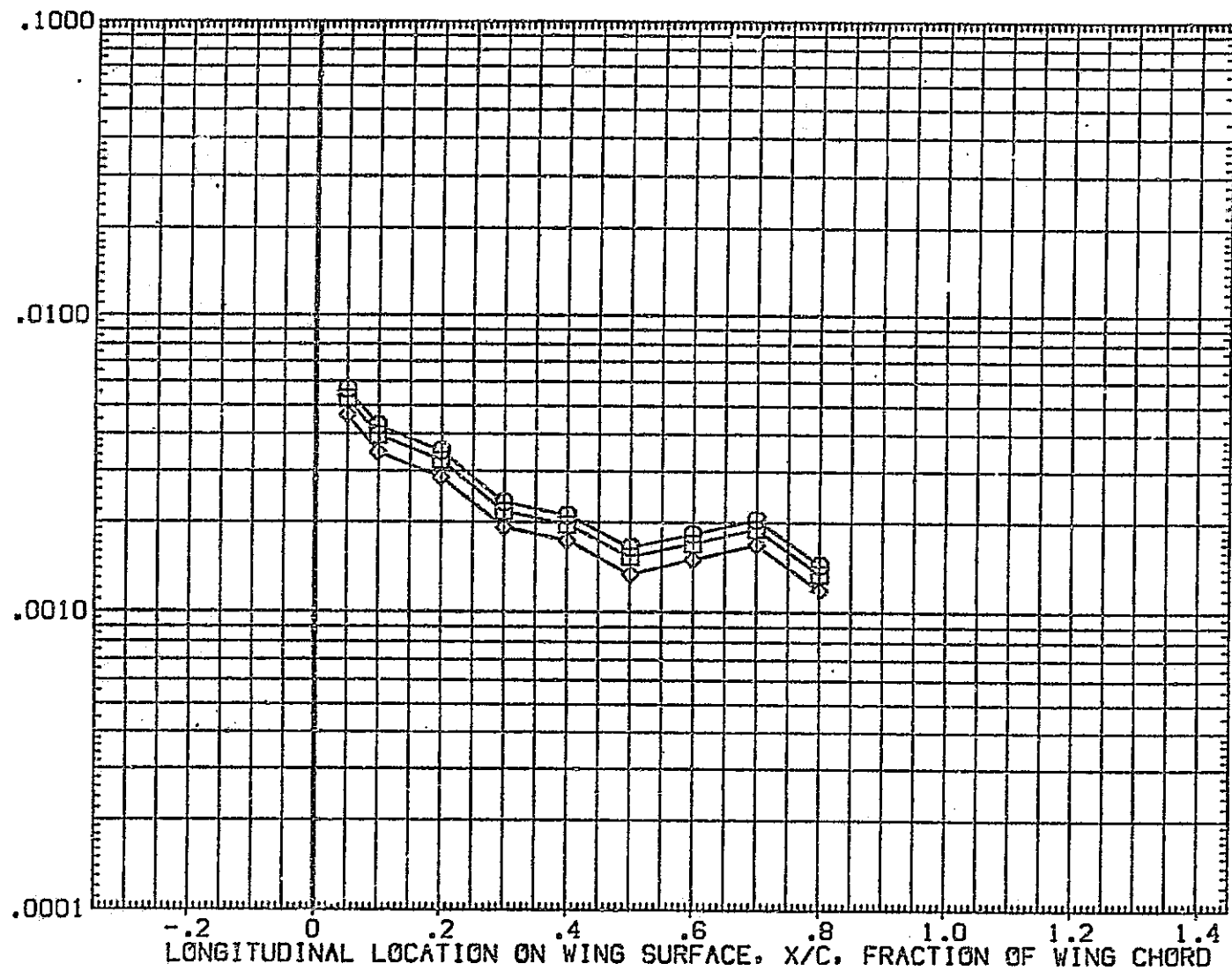


FIG 8 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS OFF

IH19 B22C7F5M4V7W111

ORBITER LOWER WING

(RQEW06)

SYMBOL	HAW/HT	2Y/B	ALPHA
◇	.850	.600	-5.000
□	.900		
○	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	MACH	19.800

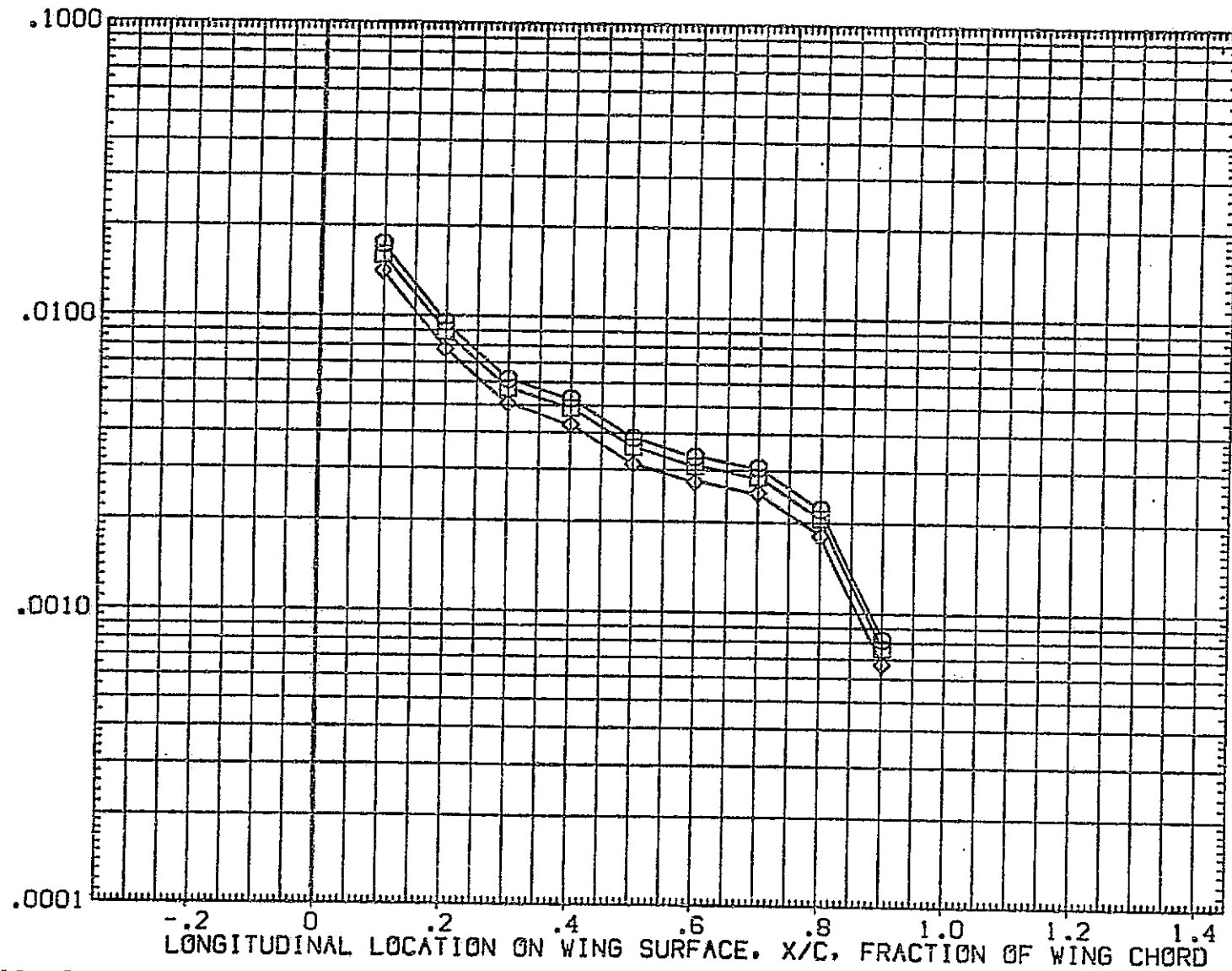
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 8 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS OFF

SYMBOL	HAW/HT	2Y/B	ALPHA
○	.850	.800	-5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RM/L	.500
BLTRIP	.000	MACH	19.800

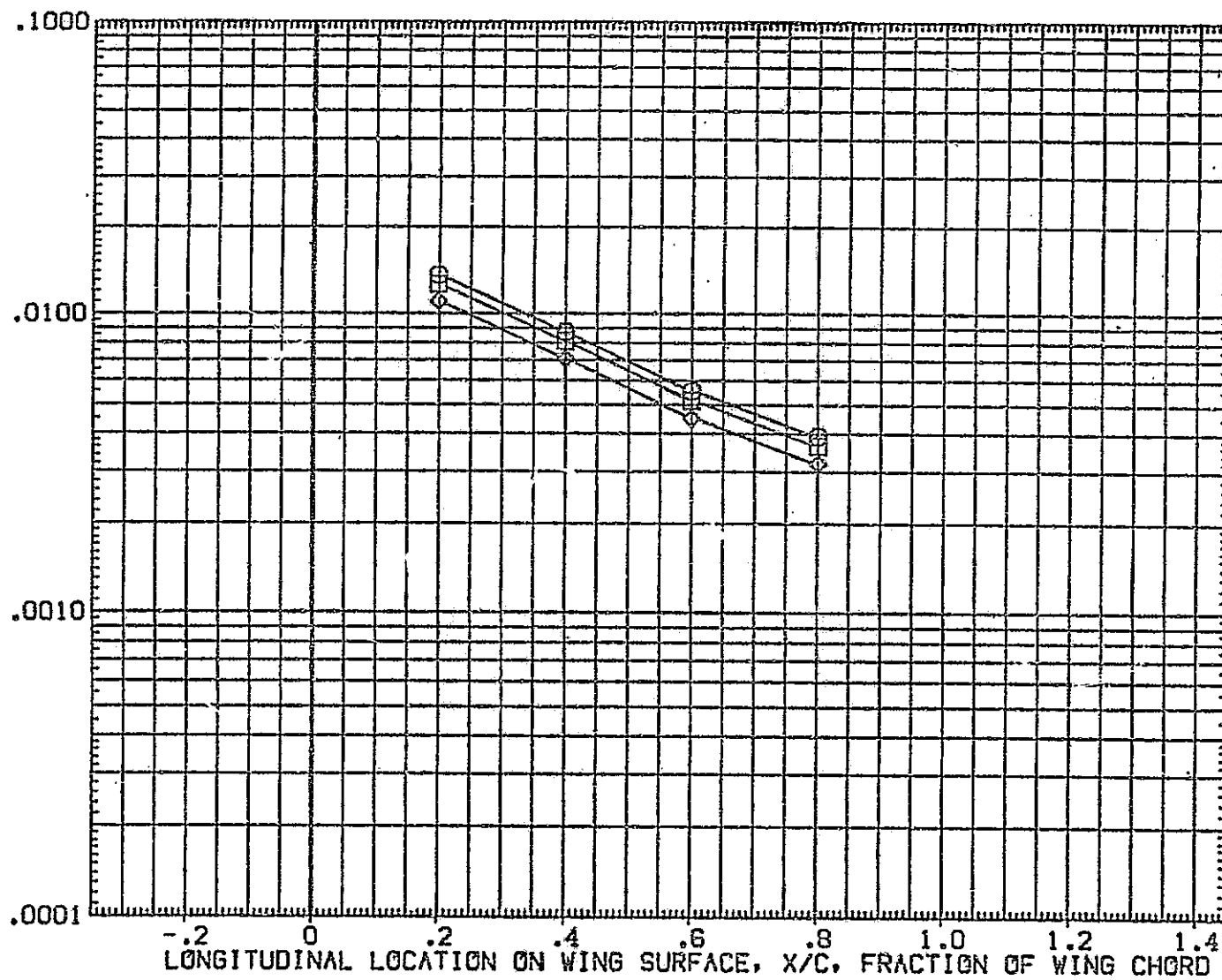
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 8 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS OFF

IH19 B22C7F5M4V7W111

ORBITER LOWER WING

(RQEW06)

SYMBOL	HAW/WT	2Y/B	ALPHA
□	.850	.400	.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	HACH	19.600

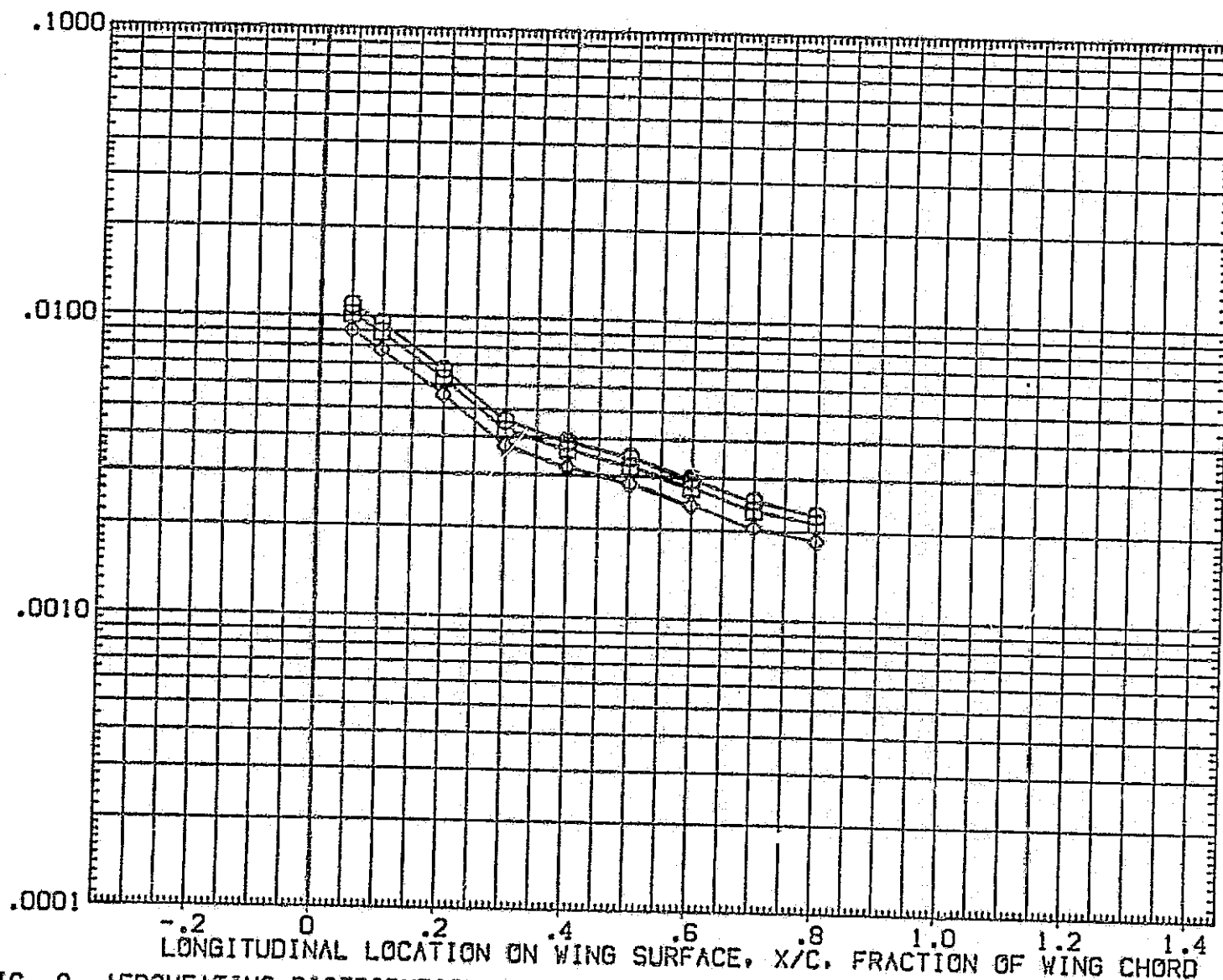
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 8 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS OFF



IH19 B22C7F5M4V7W111

ORBITER LOWER WING

(RGEW06)

SYMBOL	HAW/HT	2Y/B	ALPHA
◇	.850	.600	.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	HACH 19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

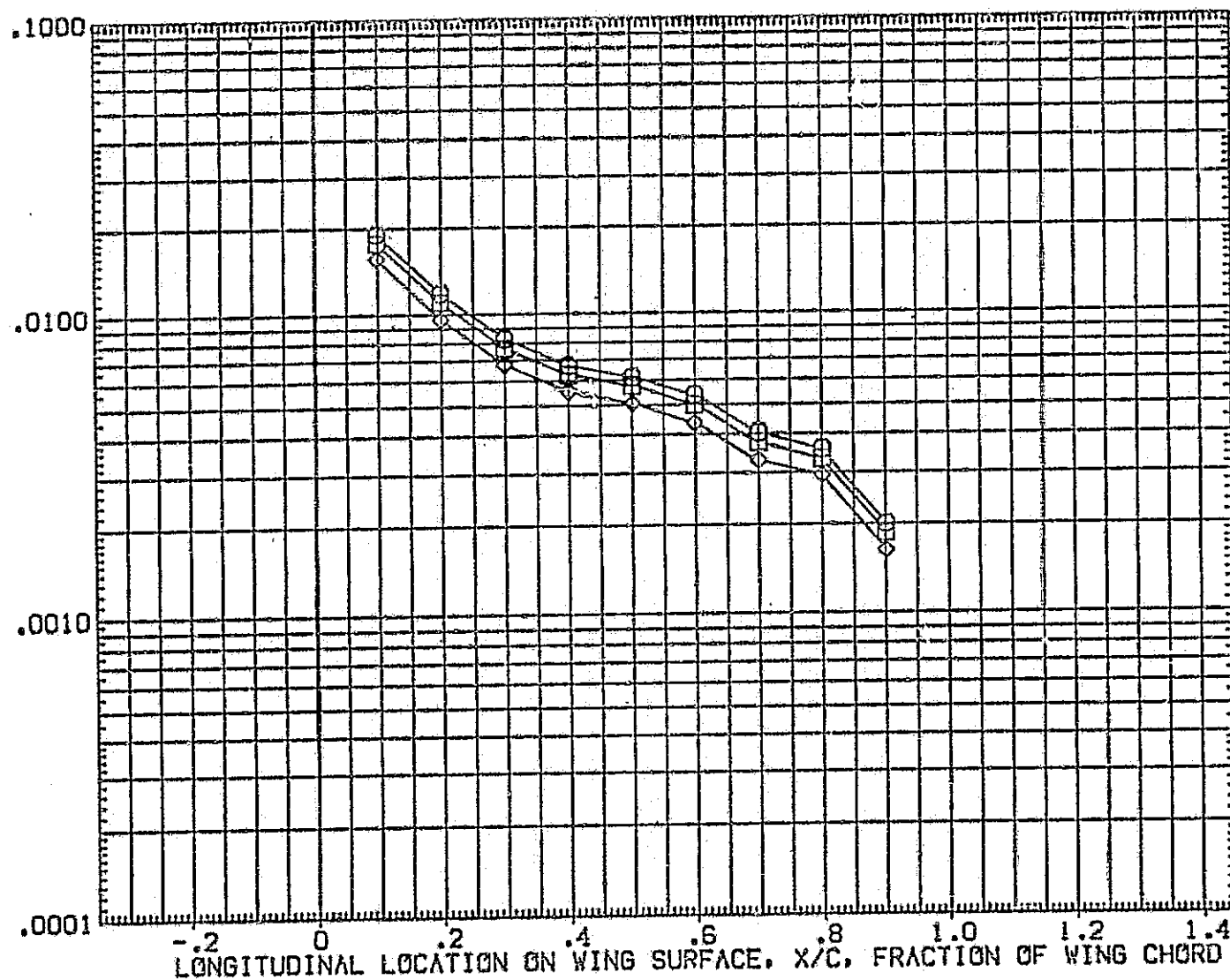


FIG 8 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS OFF

REPRODUCTION OF THE  
ORIGINAL PAGE IS POOR

1H19 B22C7F5M4V7W111

ORBITER LOWER WING

(RQEW06)

SYMBOL

HAY/HT

2Y/B

ALPHA

PARAMETRIC VALUES

BETA

.000

RN/L

.500

BLTRIP

.000

MACH

19.800

◇ □ □

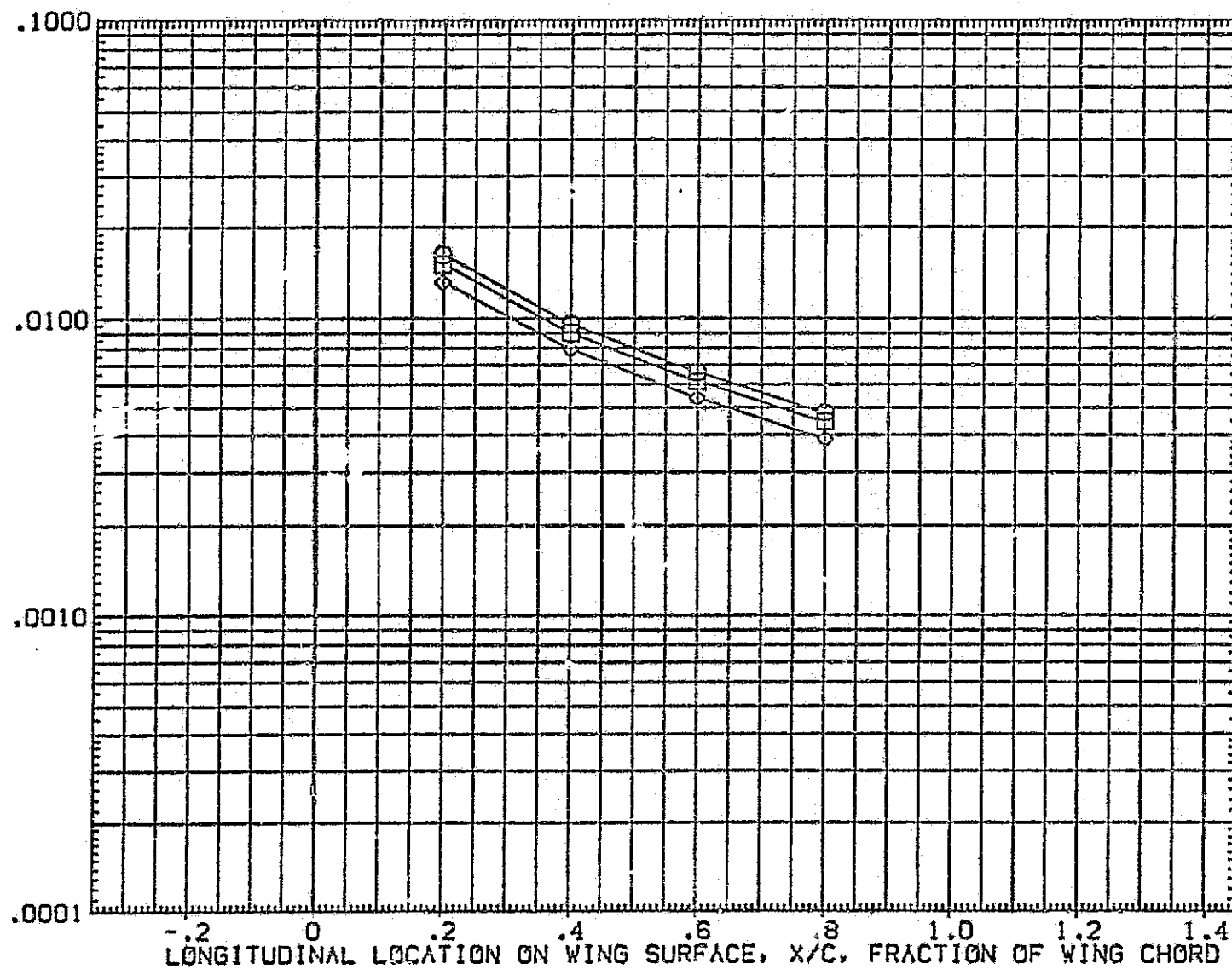
.850  
.900  
1.000RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 8 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS OFF

IH19 B22C7F5M4V7W111

ORBITER LOWER WING

(RQEW06)

SYMBOL	HAW/HT	2Y/B	ALPHA
◇	.850	.400	5.000
□	.900		
□	1.000		

PARAMETRIC VALUES		
BETA	.000	BN/L .500
BLTRIP	.000	HACH 19.000

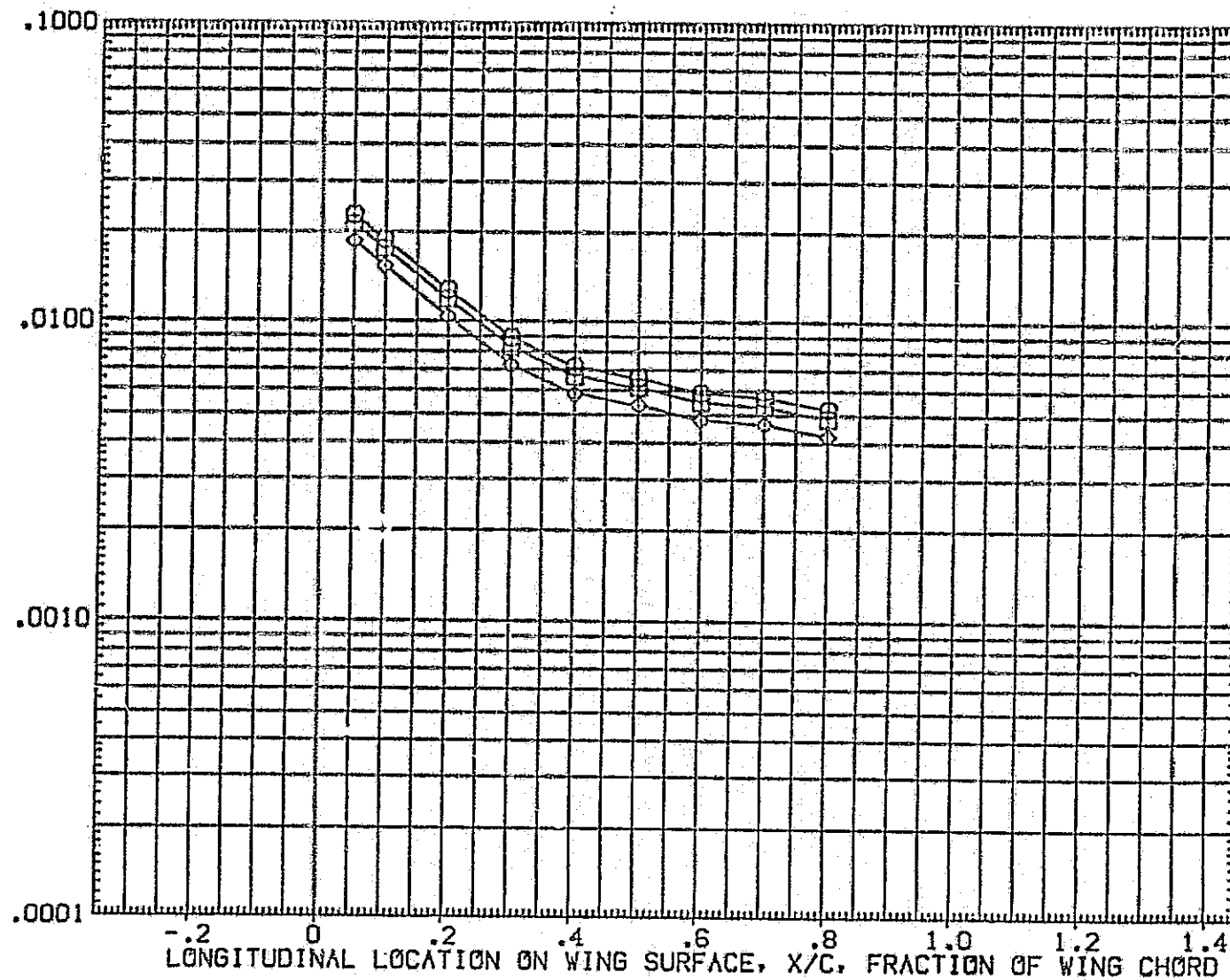
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $h/h_{REF}$ 

FIG 8 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS OFF

IH19 B22C7F5M4V7W111

ORBITER LOWER WING

(RQEW06)

SYMBOL	HAW/HT	2Y/B	ALPHA	PARAMETRIC VALUES		
				BETA	RN/L	.500
◇	.850	.600	5.000	BLTRIP	.000	MACH 19.800
□	.900					
○	1.000					

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

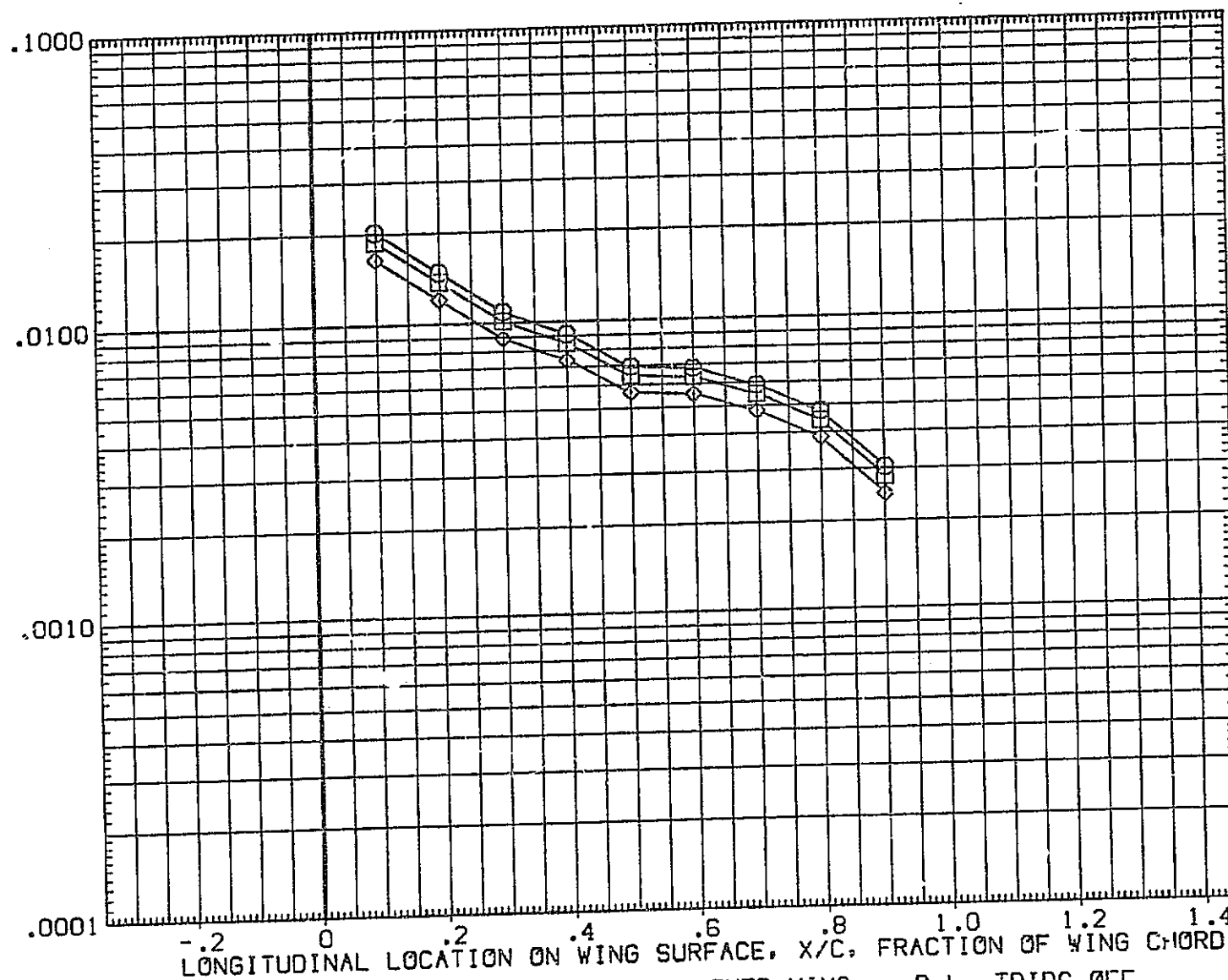


FIG 8 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS OFF

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

IH19 B22C7F5M4V7W111

ORBITER LOWER WING

(RQEW06)

SYMBOL	HAW/HT	2Y/B	ALPHA
○	.850	.800	5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

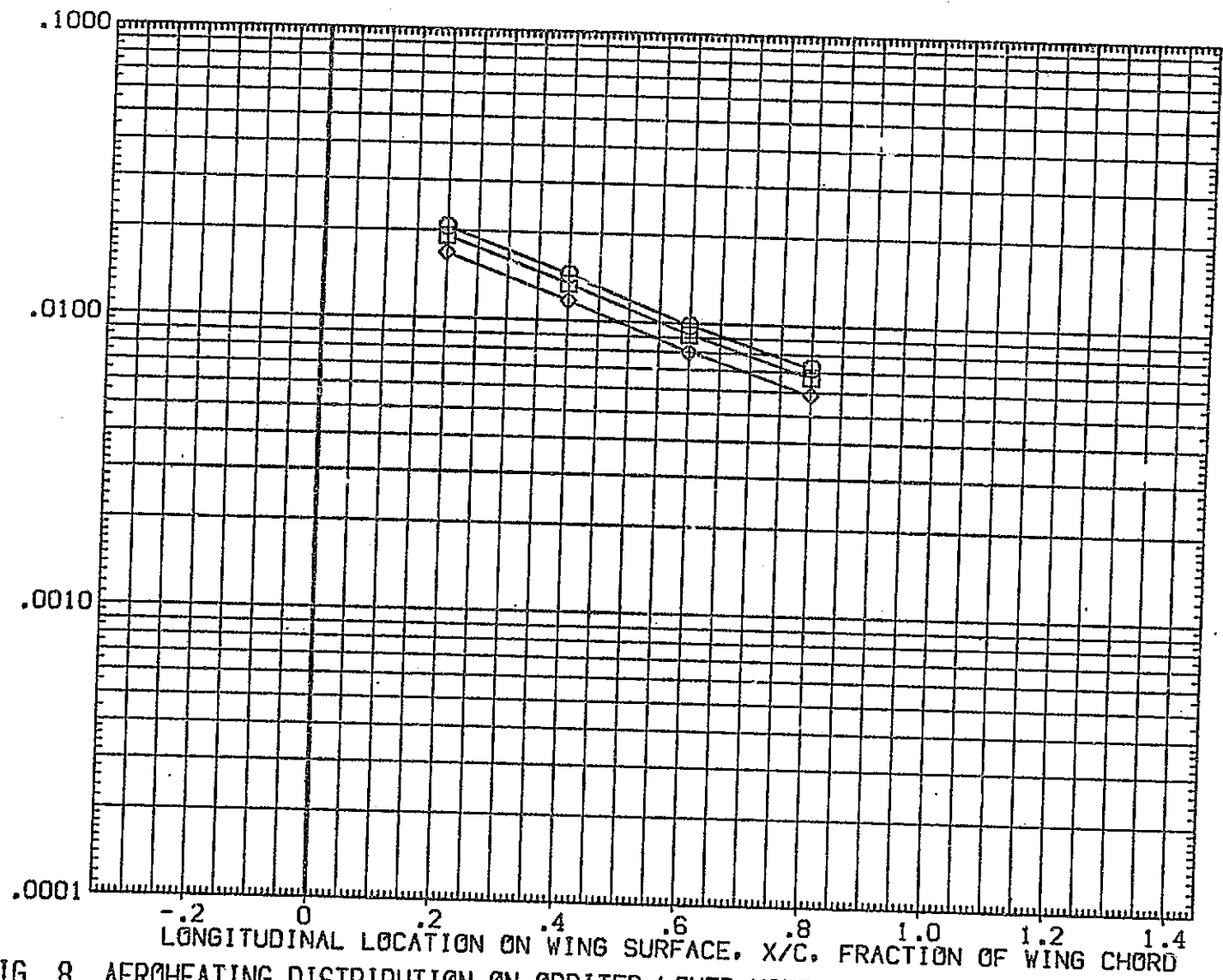
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 8 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS OFF

IH19 B22C7F5M4V7W111

ORBITER LOWER WING

(RQEW06)

SYMBOL	HAW/HT	2Y/B	ALPHA
◇◇◇	.850	.400	10.000
	.900		
	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	MACH	19.800

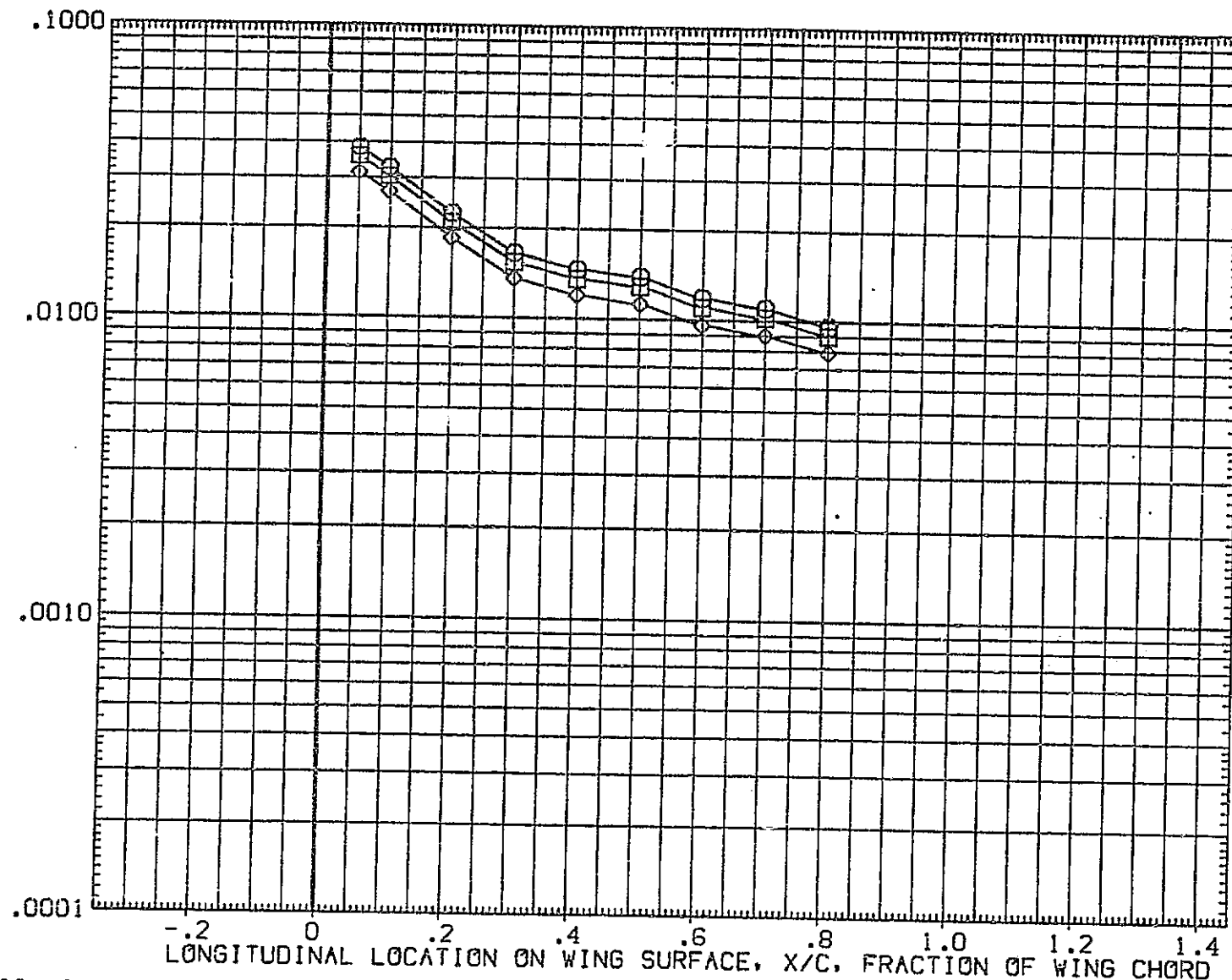
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 8 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS OFF

IH19 B22C7F5M4V7W111

ORBITER LOWER WING

(RQEW06)

SYMBOL	HAW/HT	2Y/B	ALPHA
◇	.850	.600	10.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

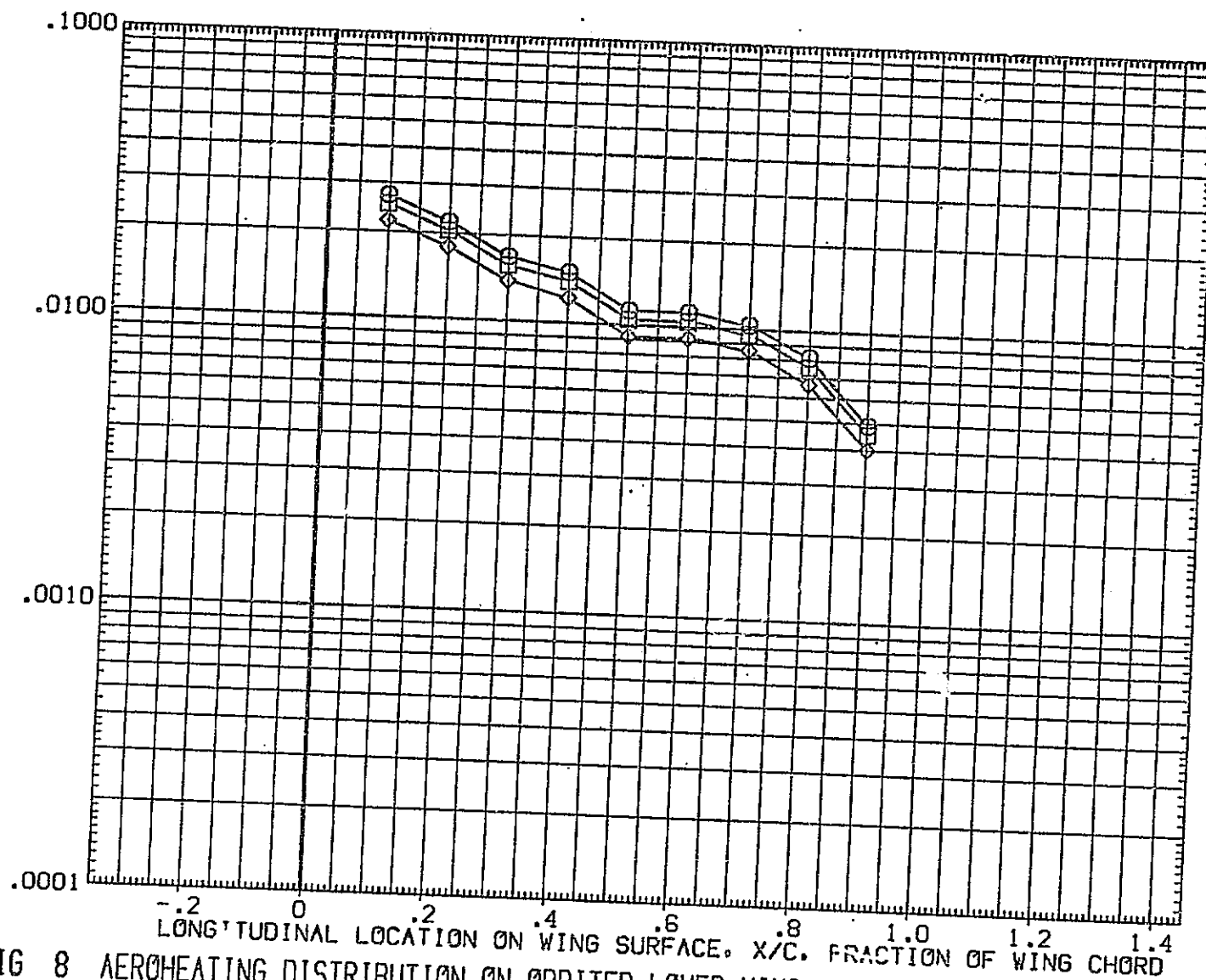
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 8 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS OFF

IH19 B22C7F5M4V7W111

ORBITER LOWER WING

(RQEW06)

SYMBOL

HAW/HT

2Y/B

ALPHA

BETA

PARAMETRIC VALUES

BLTRIP

.000

RN/L

.500

.000

MACH

19.600

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

◇ □ ○

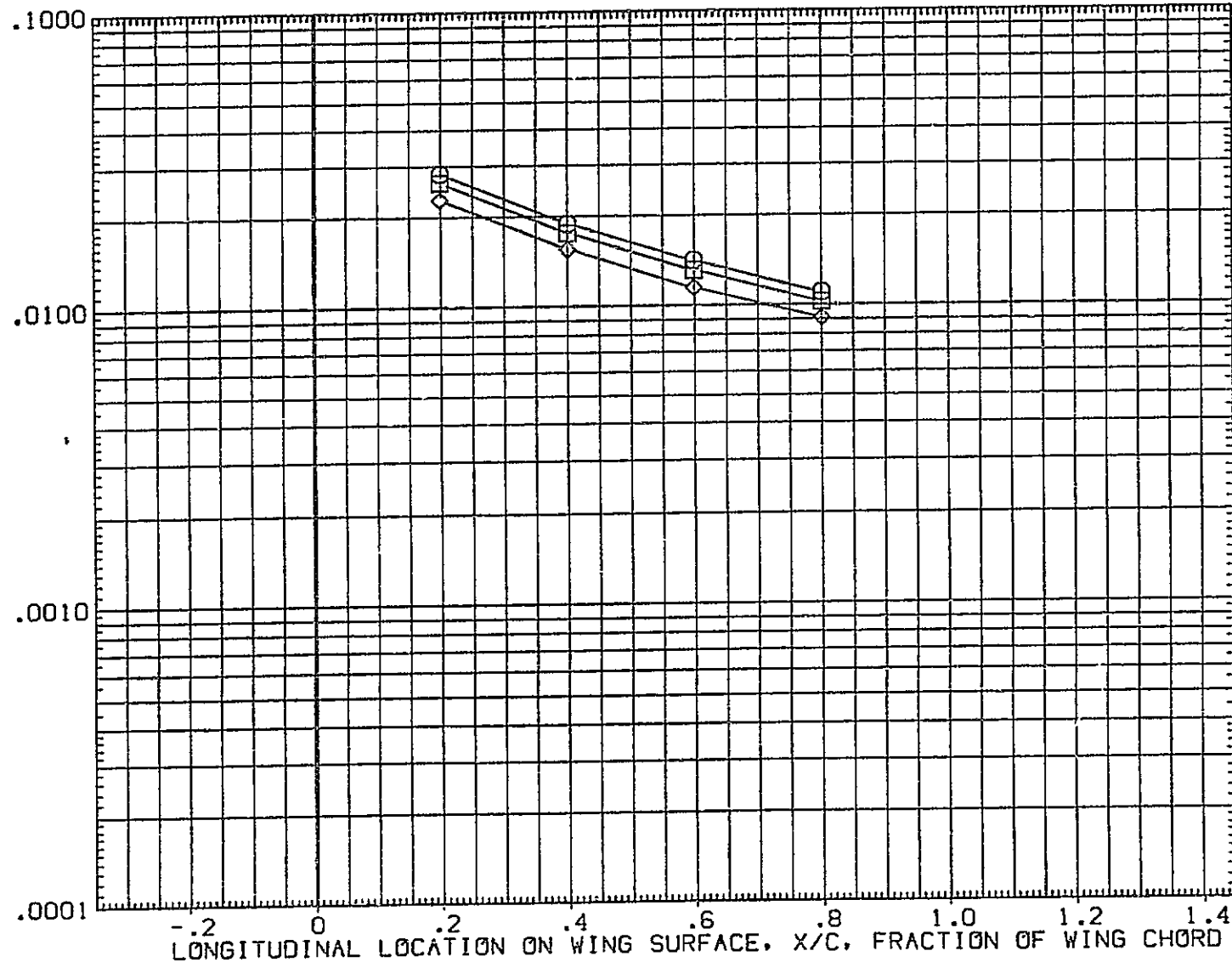


FIG 8 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS OFF



IH19 B22C7F5M4V7W111 T8 ORBITER LOWER WING

(RQEW03)

SYMBOL	HAW/HT	2Y/B	ALPHA
○	.850	.400	-10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
MACH	19.800	

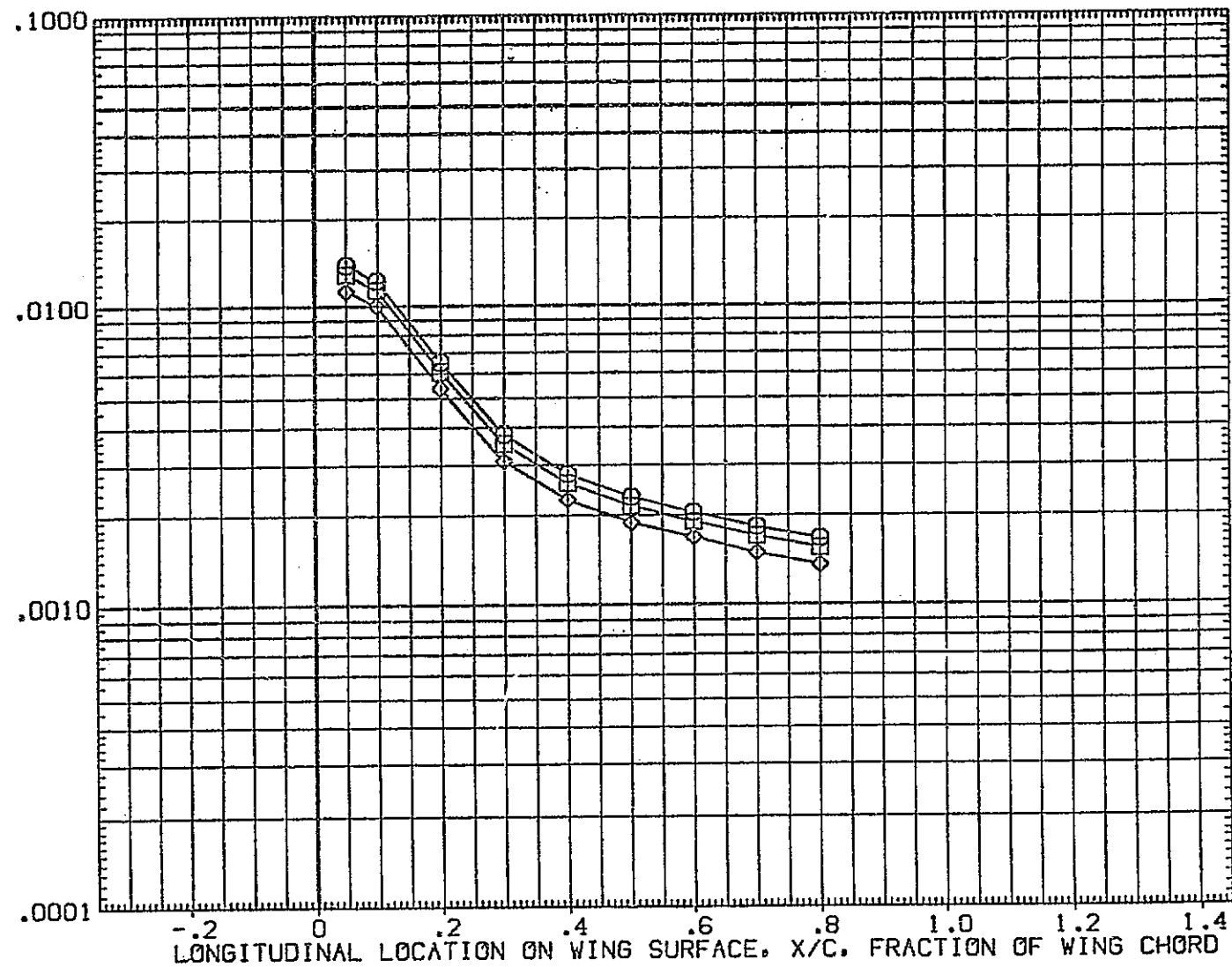
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 8 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS OFF

1H19 B22C7F5M4V7W111 T8 ORBITER LOWER WING

(RQEW03)

SYMBOL	HAW/HT	2Y/B	ALPHA
◇	.850	.600	-10.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
MACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

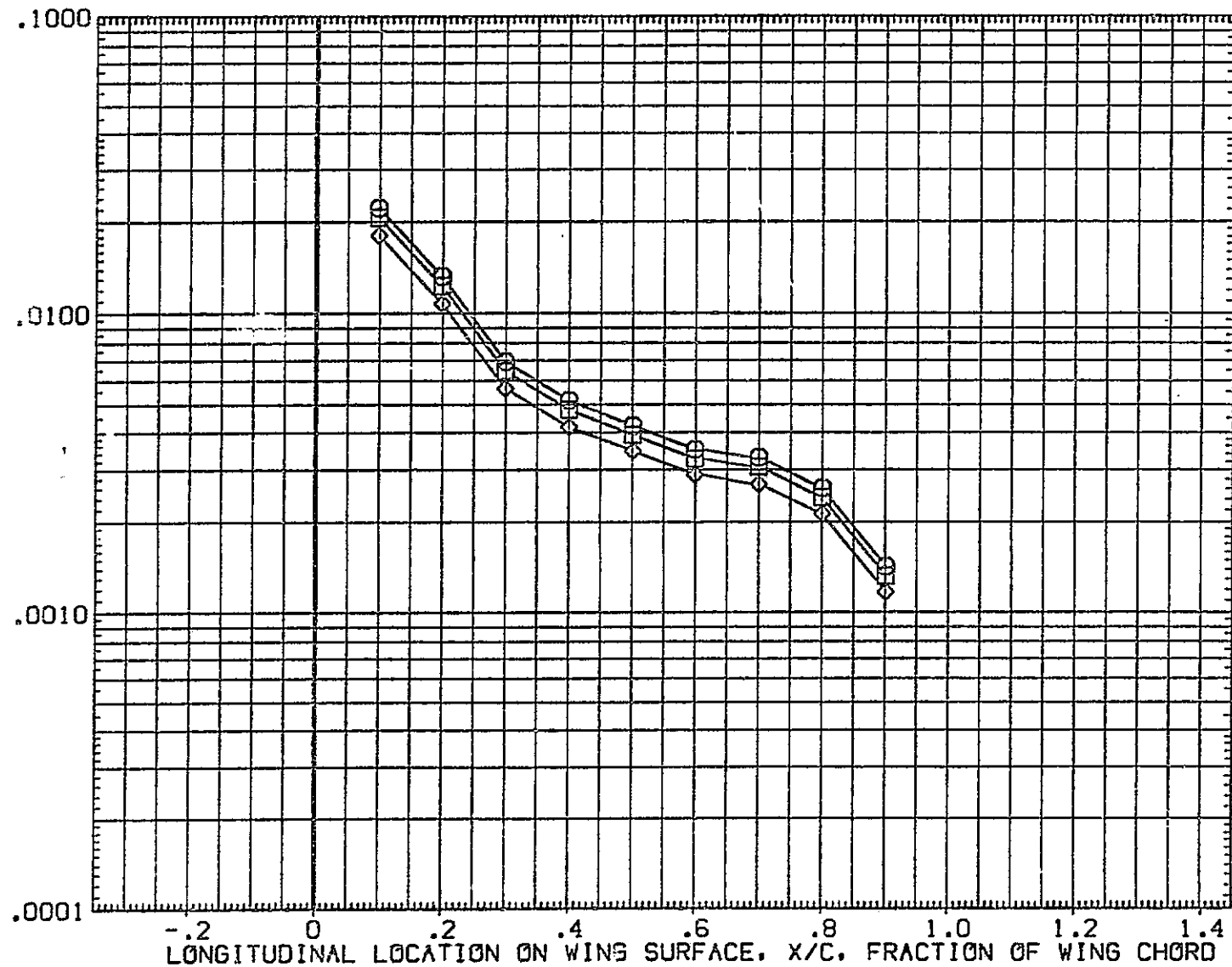


FIG 8 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS OFF

SYMBOL	HAW/HT	2Y/B	ALPHA
◇	.850	.800	-10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
MACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

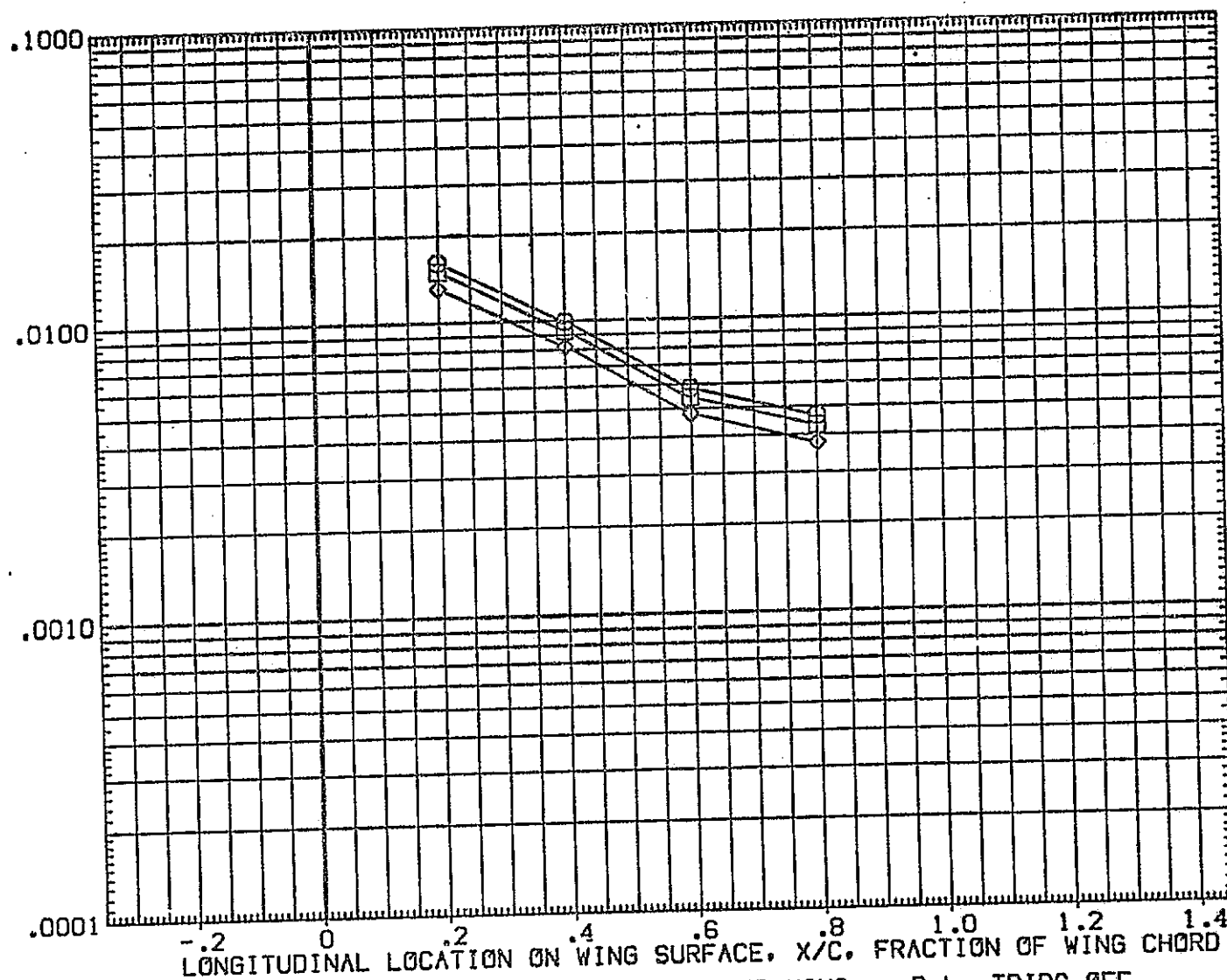


FIG 8 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS OFF

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

IH19 B22C7F5M4V7W111 T8 ORBITER LOWER WING

(RQEW03)

SYMBOL	HAW/HT	2Y/B	ALPHA
○	.850	.400	-5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
MACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

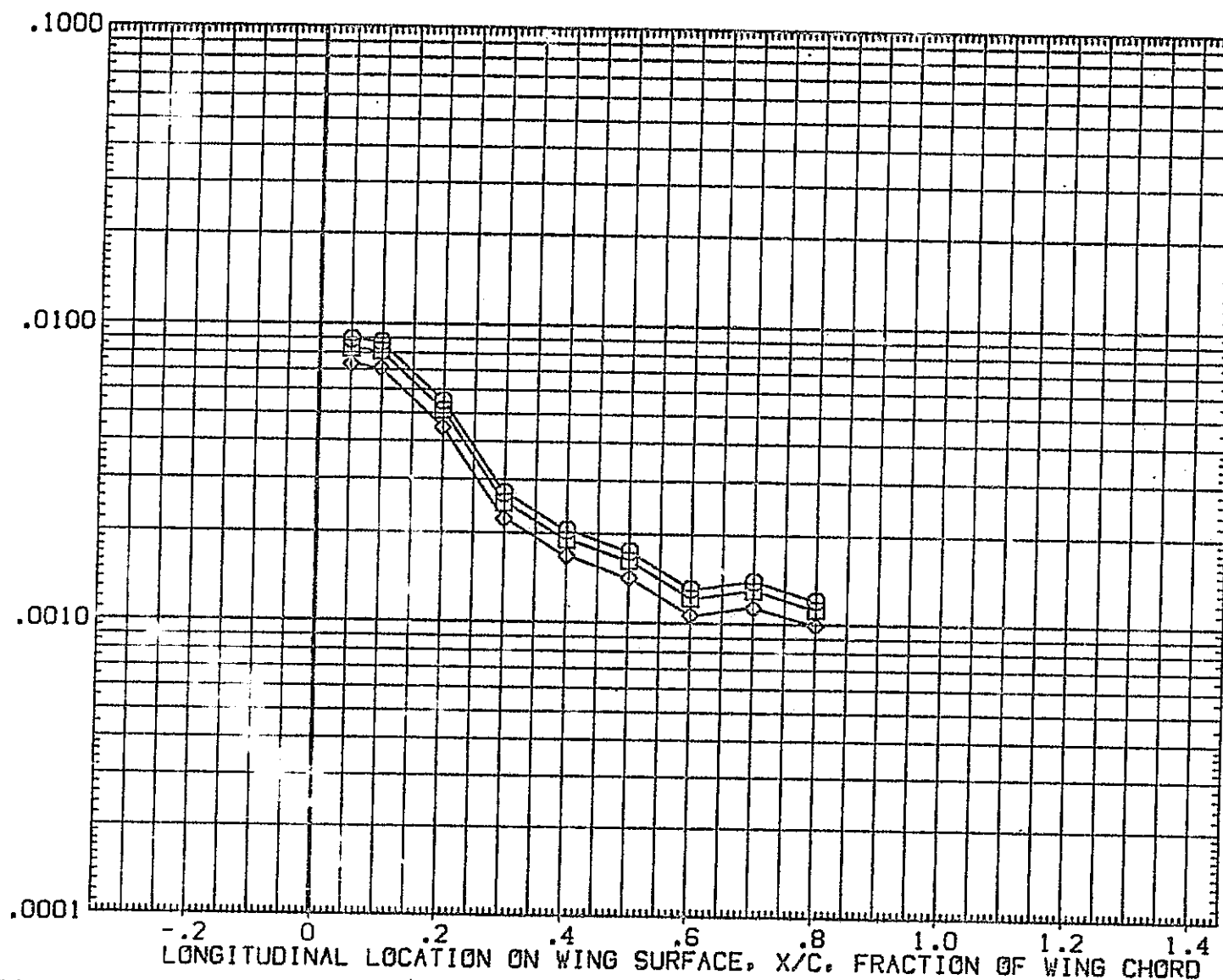


FIG 8 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS OFF

SYMBOL	HAW/HT	2Y/B	ALPHA
○	.850	.600	-5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
MACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$

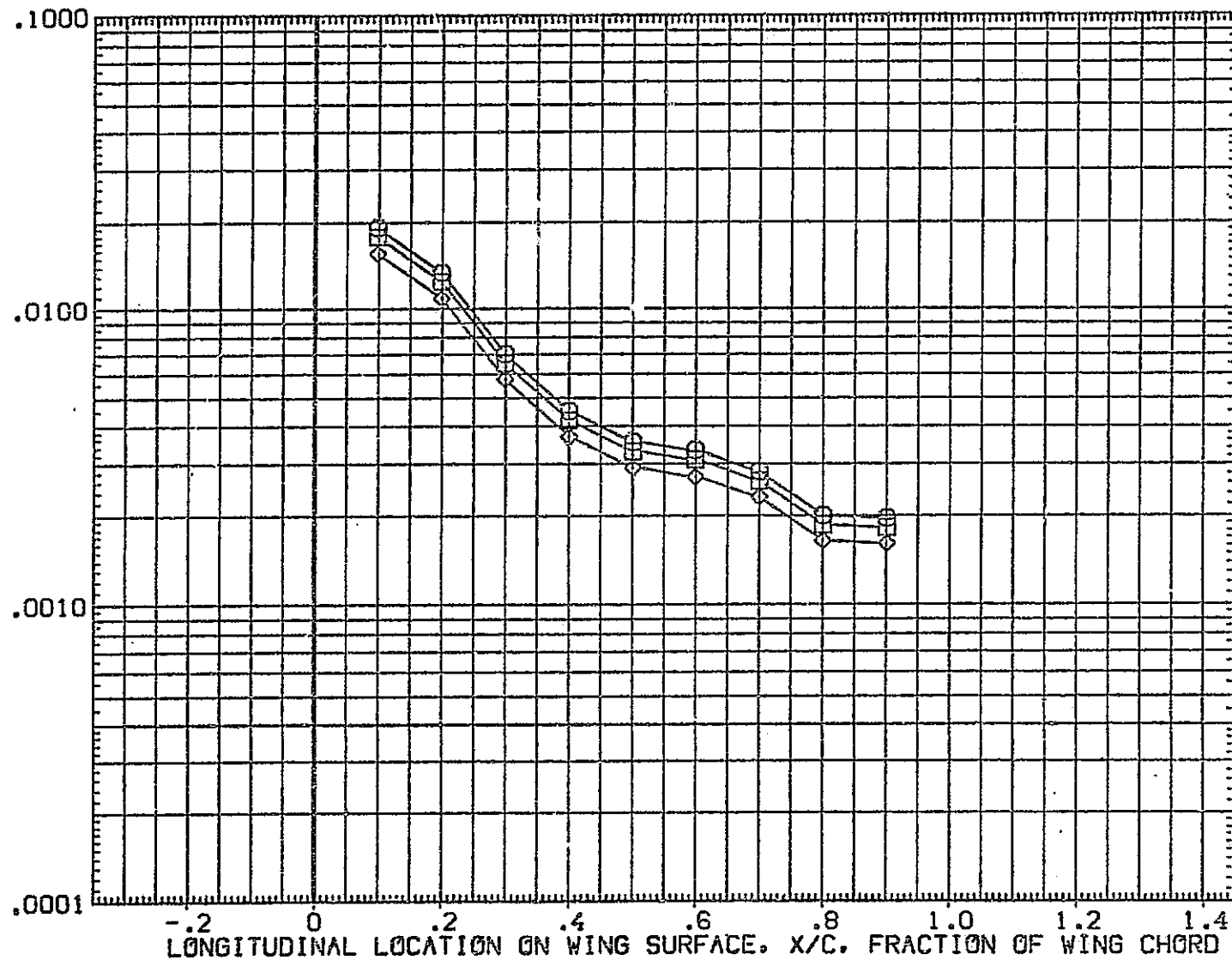


FIG 8 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS OFF

IH19 B22C7F5M4V7W111 T8 ORBITER LOWER WING

(RQEW03)

SYMBOL

HAW/HT

2Y/B

ALPHA

BETA

PARAMETRIC VALUES

BLTRIP

RN/L

.500

MACH

19.800

DELTAH

.175

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

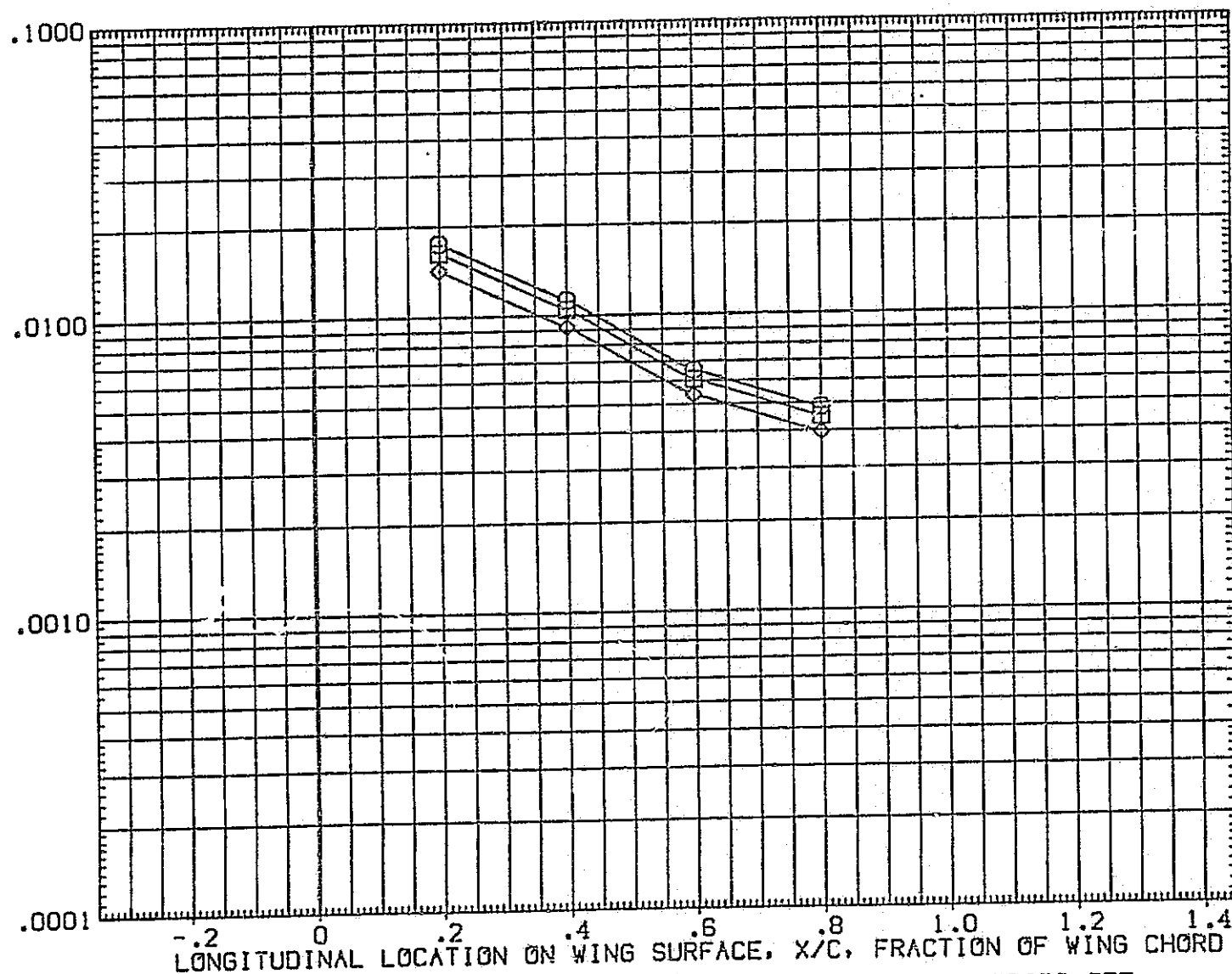


FIG 8 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS OFF

SYMBOL	HAW/HT	2Y/B	ALPHA
□	.850	.400	.000
◇	.900		
	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
HACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

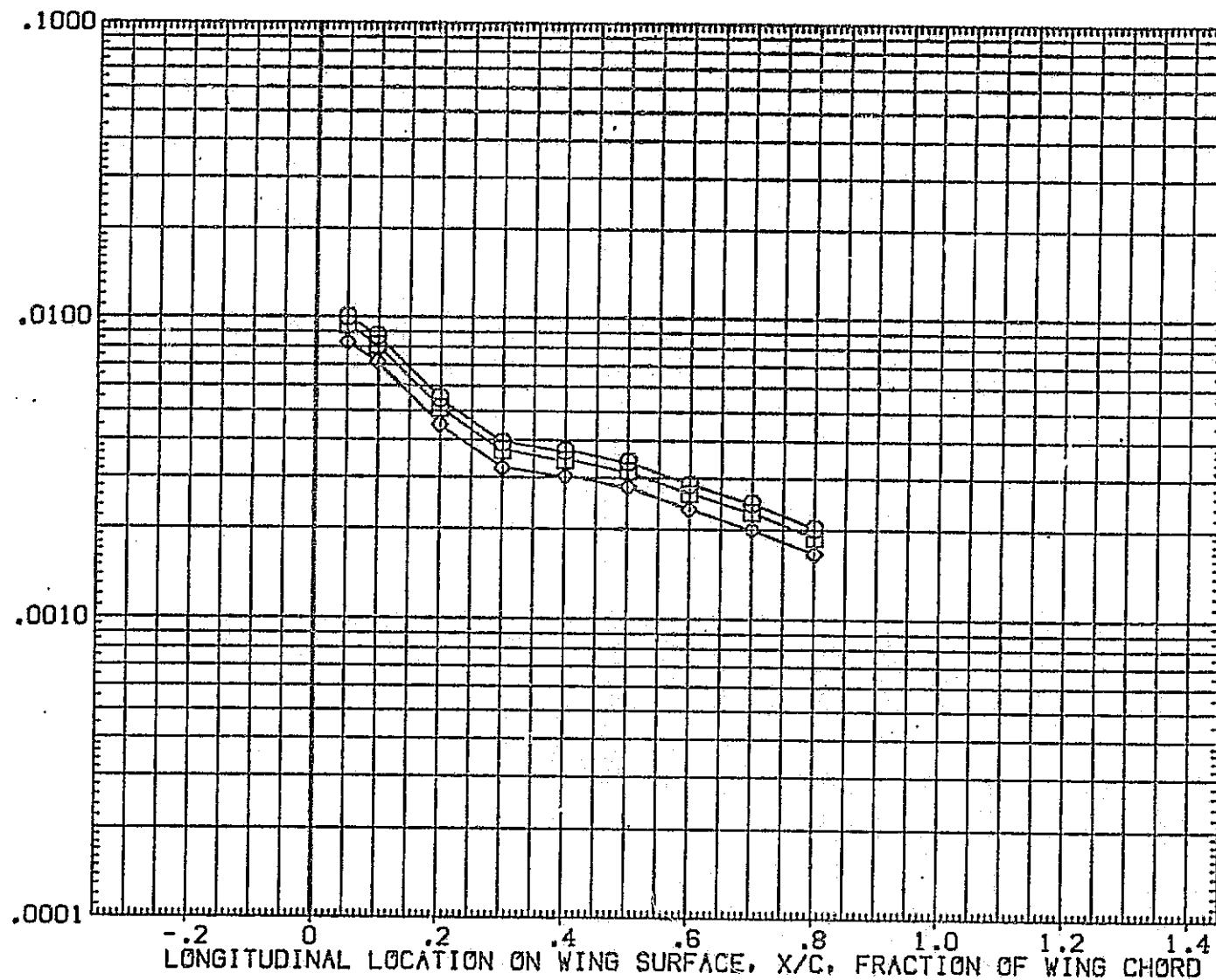


FIG 8 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS OFF

IH19 B22C7F5M4V7W111 T8 ORBITER LOWER WING

(RQEW03)

SYMBOL	HAW/HT	2Y/B	ALPHA	BETA	PARAMETRIC VALUES	
◇ □ ○	.850	.600	.000	BLTRIP	.000	RN/L .500
	.900			MACH	.000	DELTAH .175
	1.000				19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

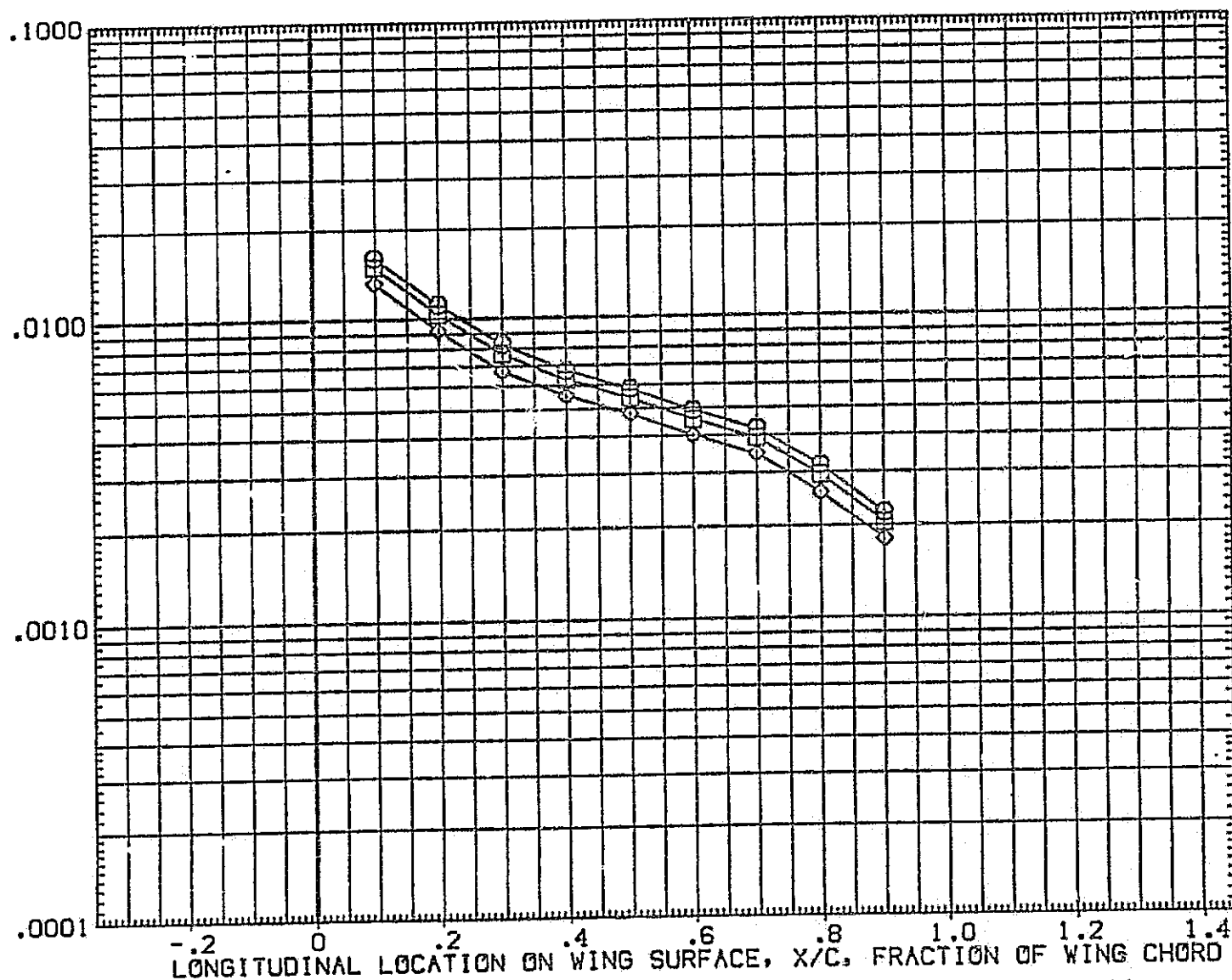


FIG 8 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS OFF



SYMBOL	HAW/HT	2Y/B	ALPHA
◇	.850	.800	.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	DELTAH	.175
HACH	19.000		

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

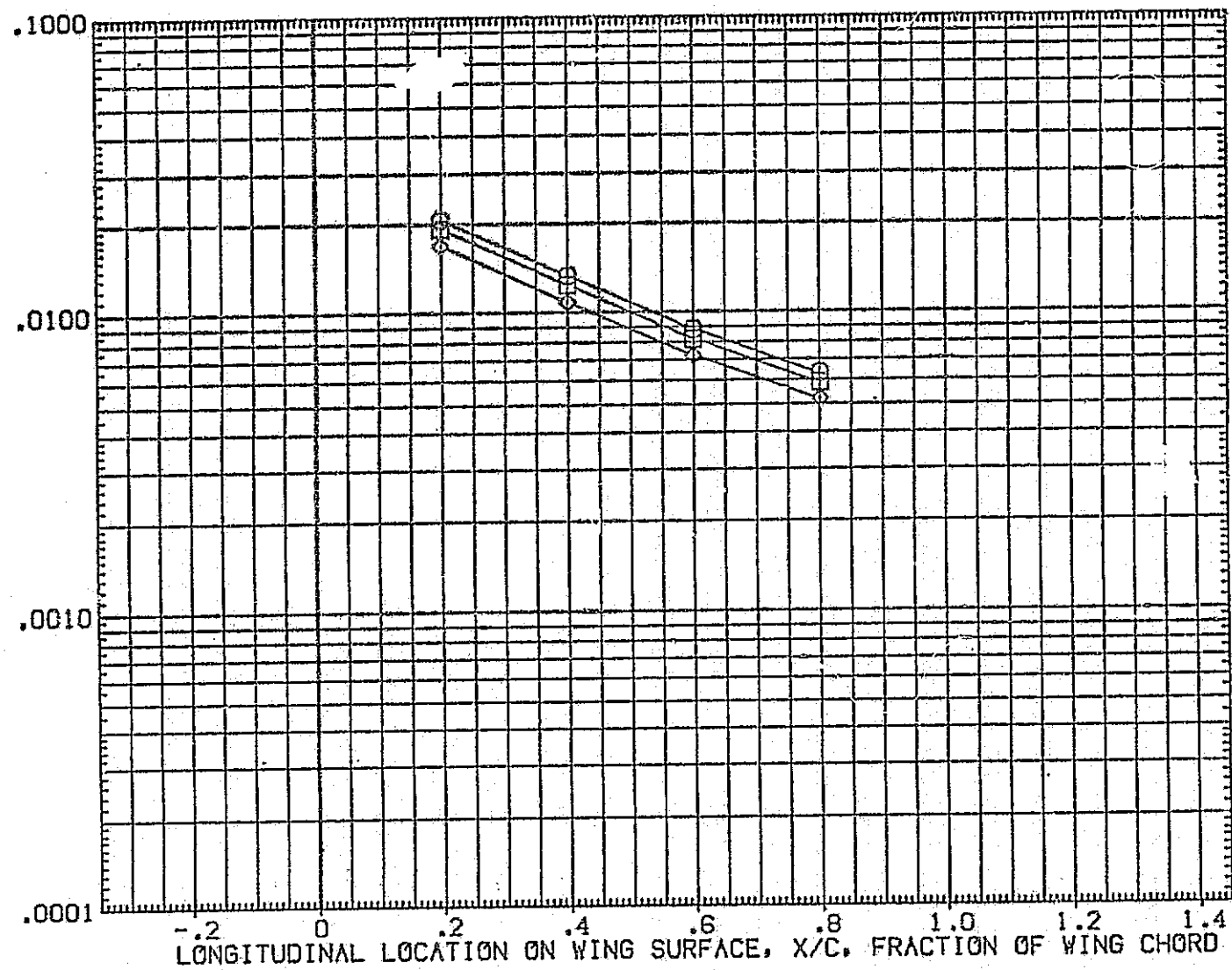


FIG 8 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS OFF

IH19 B22C7F5M4V7W111 T8 ORBITER LOWER WING

(RQEW03)

SYMBOL	HAW/HT	2Y/B	ALPHA
○	.850	.400	5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BEYA	.000	RN/L	.500
BLTRIP	.000	DELTAH	.175
MACH	19.800		

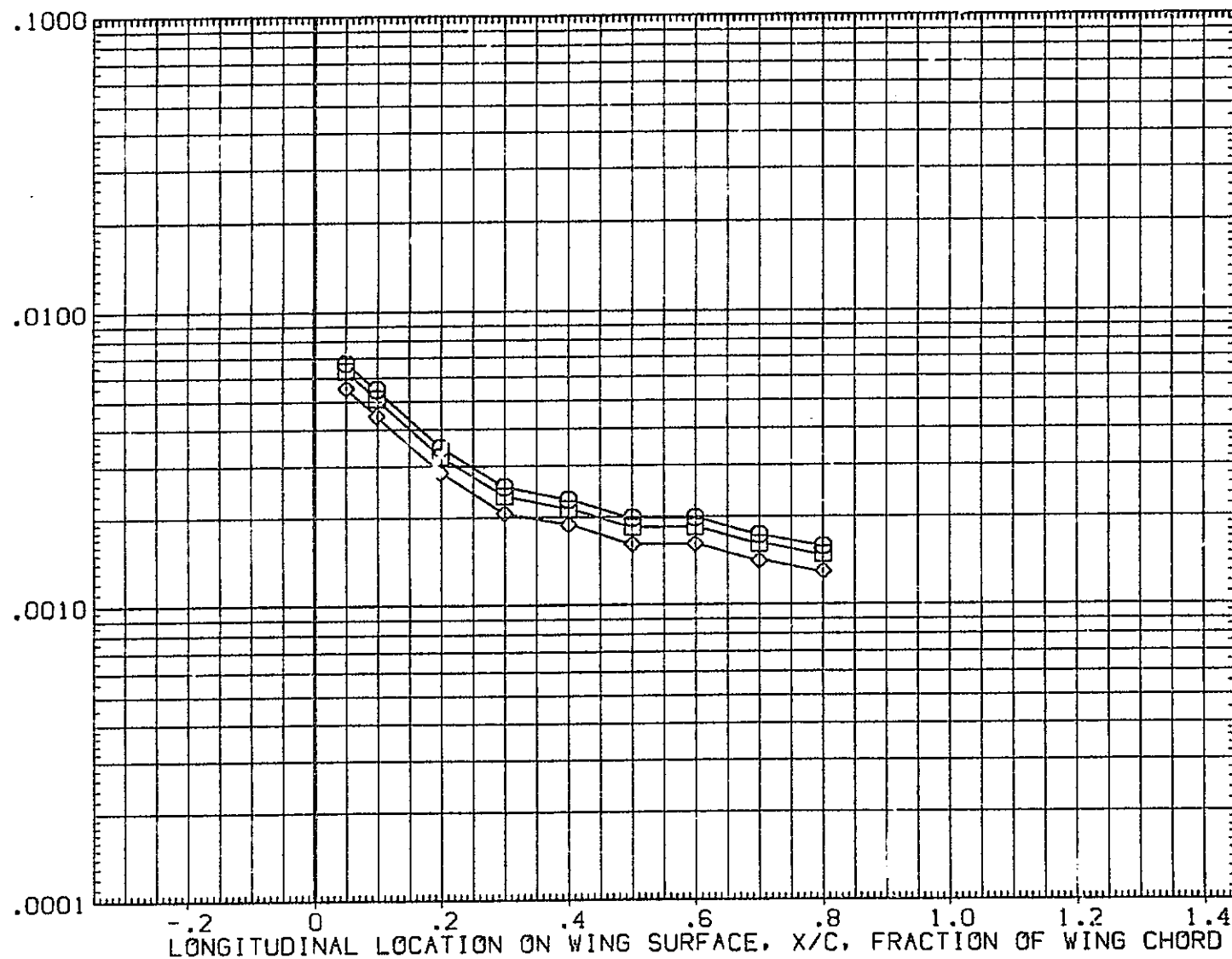
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 8 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS OFF

SYMBOL	HAW/HT	2Y/B	ALPHA
◇	.850	.600	5.000
□	.900		
○	1.000		

PARAMETRIC VALUES			
BETA	.000	RM/L	.500
BLTRIP	.000	DELTAH	.175
MACH	19.800		

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

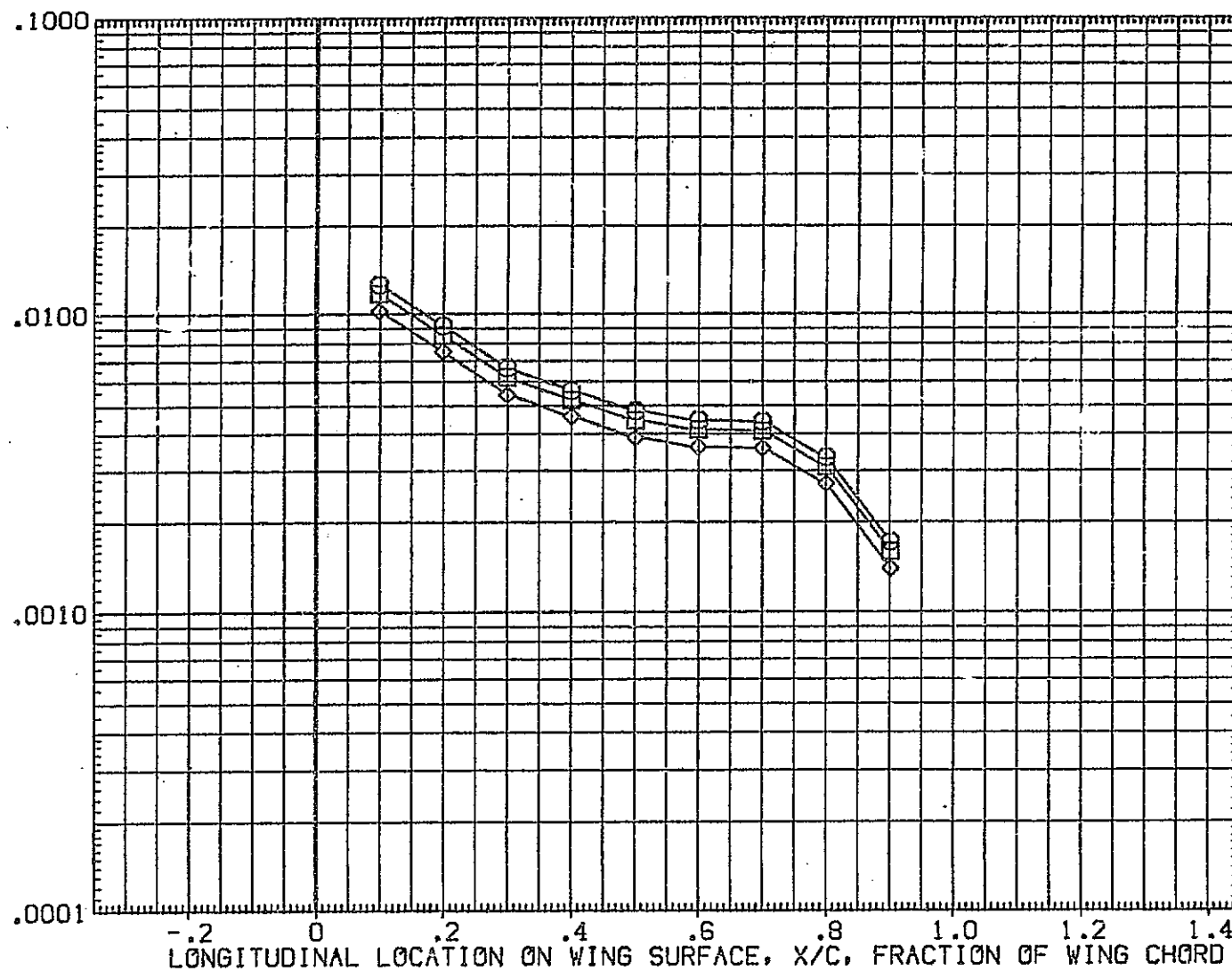


FIG 8 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS OFF

IH19 B22C7F5M4V7W111 T8 ORBITER LOWER WING

(RQEW03)

SYMBOL	HAW/HT	2Y/B	ALPHA
○	.850	.800	5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
HACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

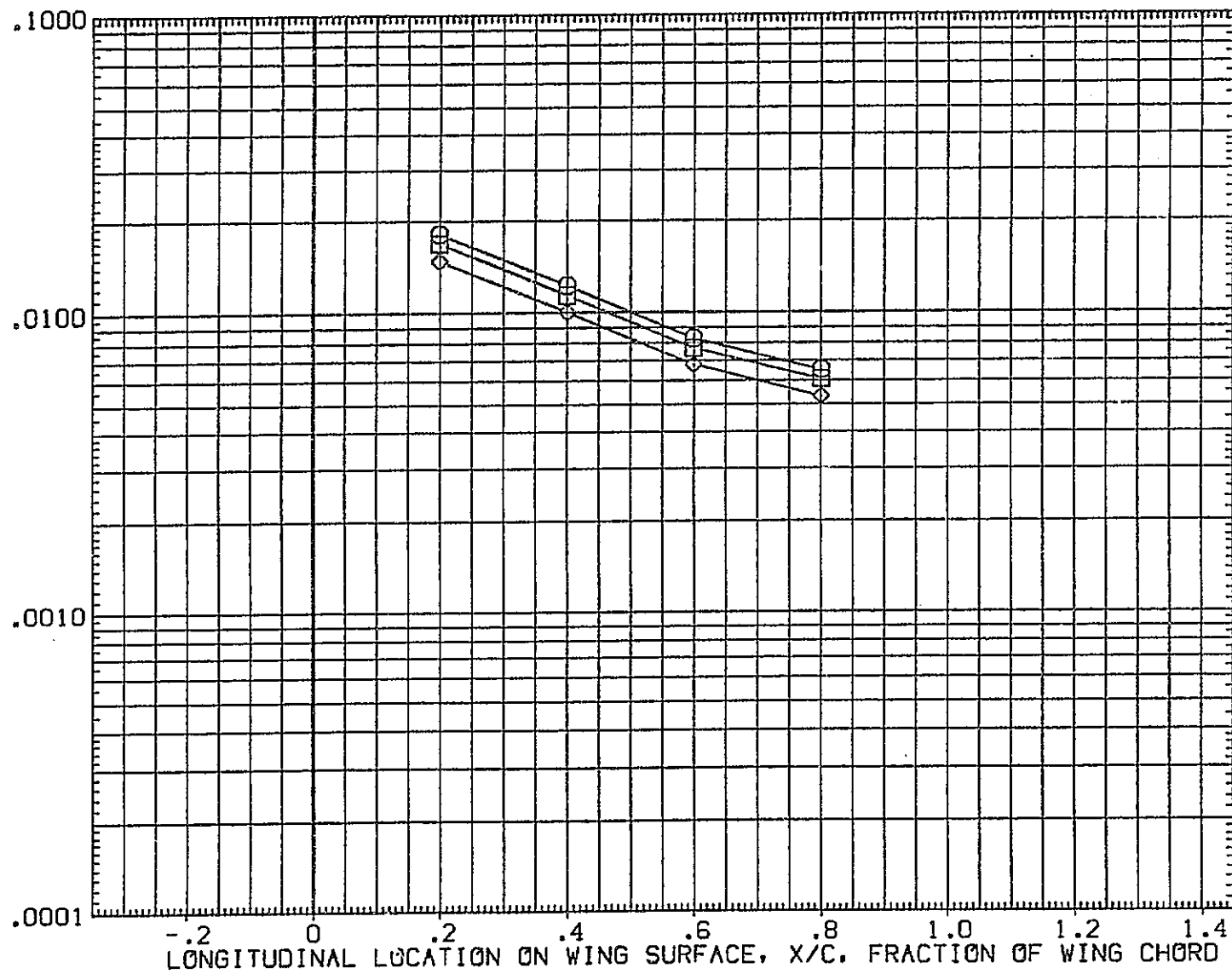


FIG 8 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS OFF

## IH19 B22C7F5M4V7W111 T8 ORBITER LOWER WING

(RQEW03)

SYMBOL	HAW/HT	2Y/B	ALPHA
○	.850	.400	10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
MACH	19.000	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

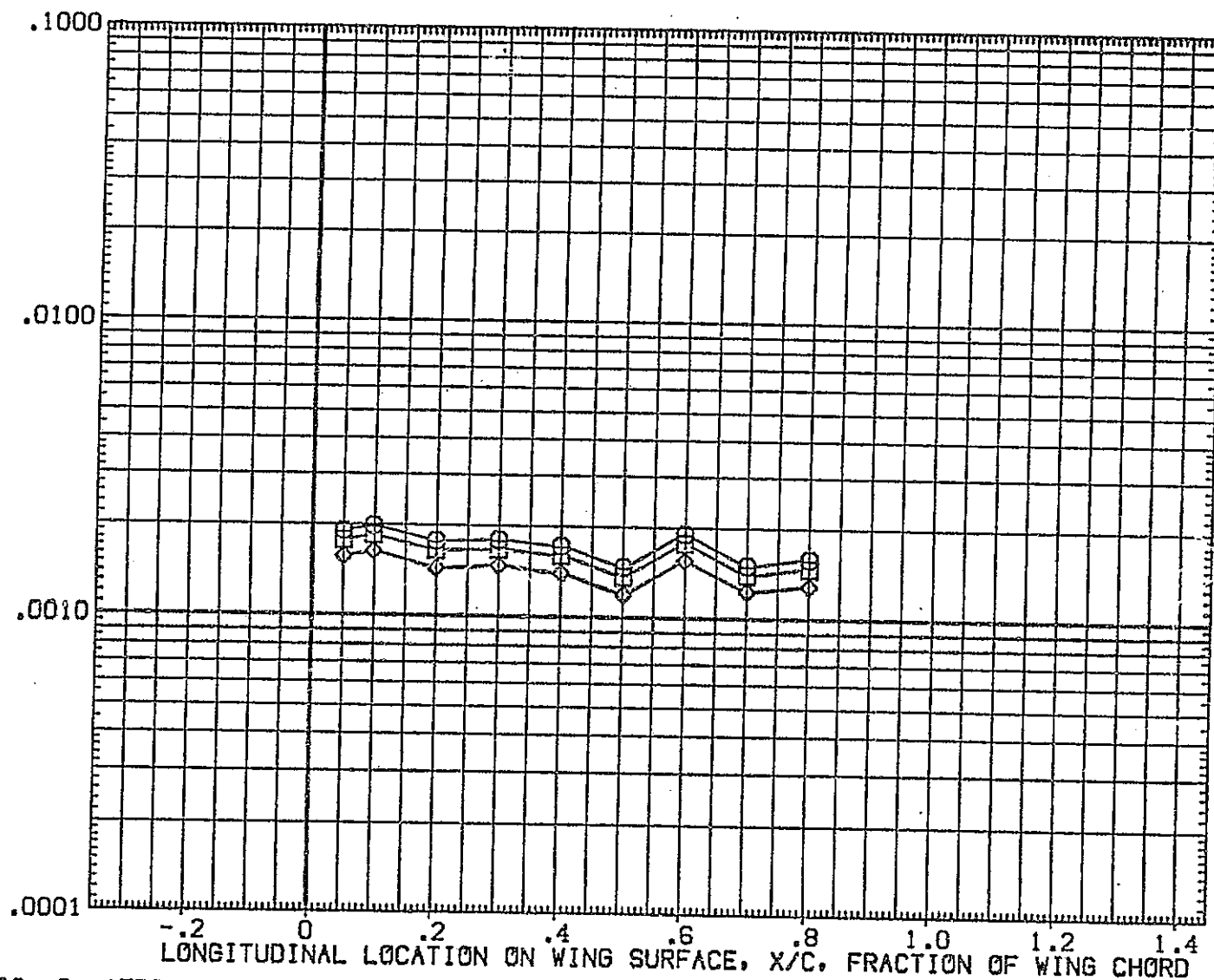


FIG 8 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS OFF

# IH19 B22C7F5M4V7W111 T8 ORBITER LOWER WING

(RQEW03)

SYMBOL	HAW/HT	2Y/B	ALPHA
◇	.850	.600	10.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
MACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

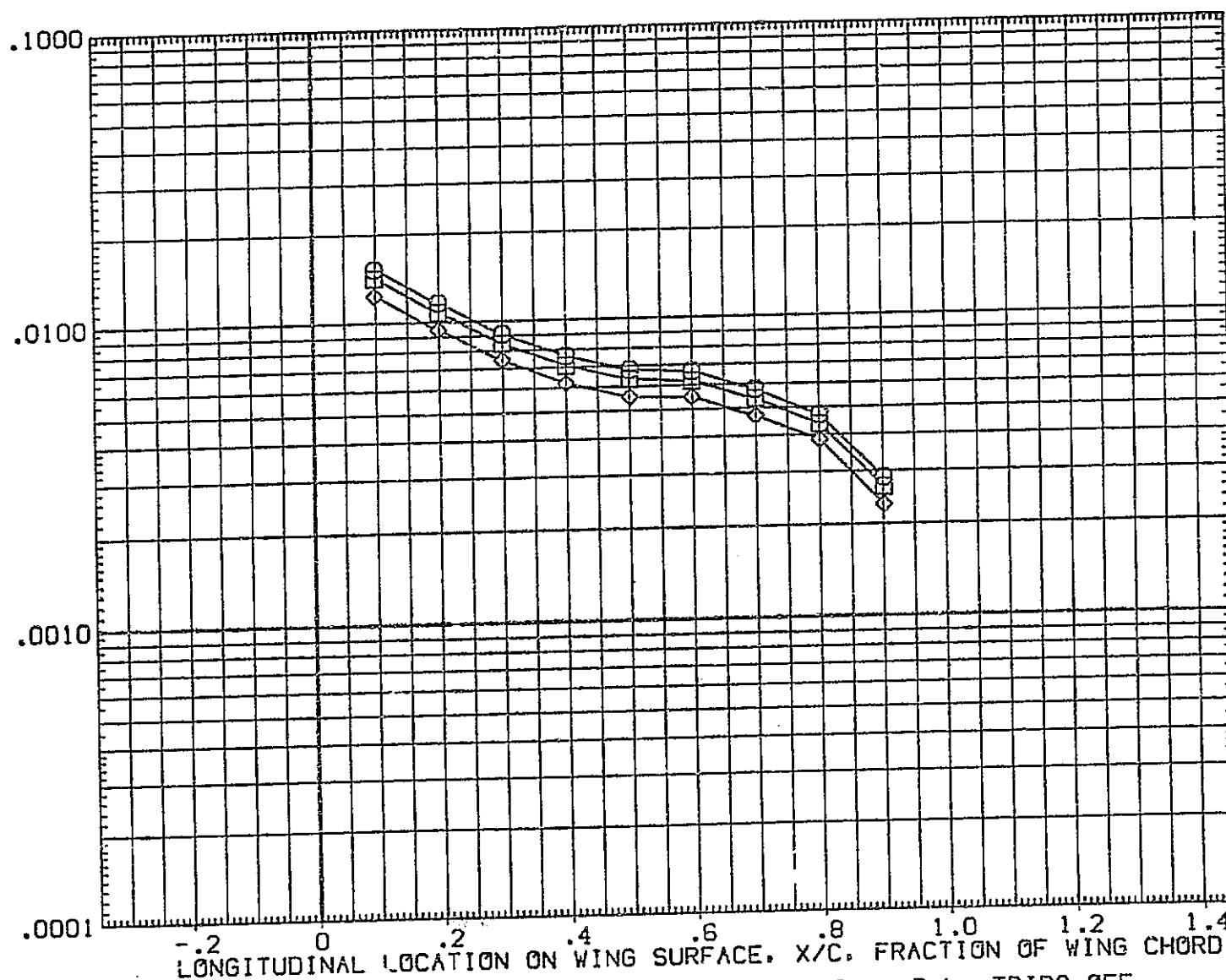


FIG 8 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS OFF

SYMBOL	HAW/HT	2Y/B	ALPHA
◇	.850	.800	10.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
MACH	19.800	

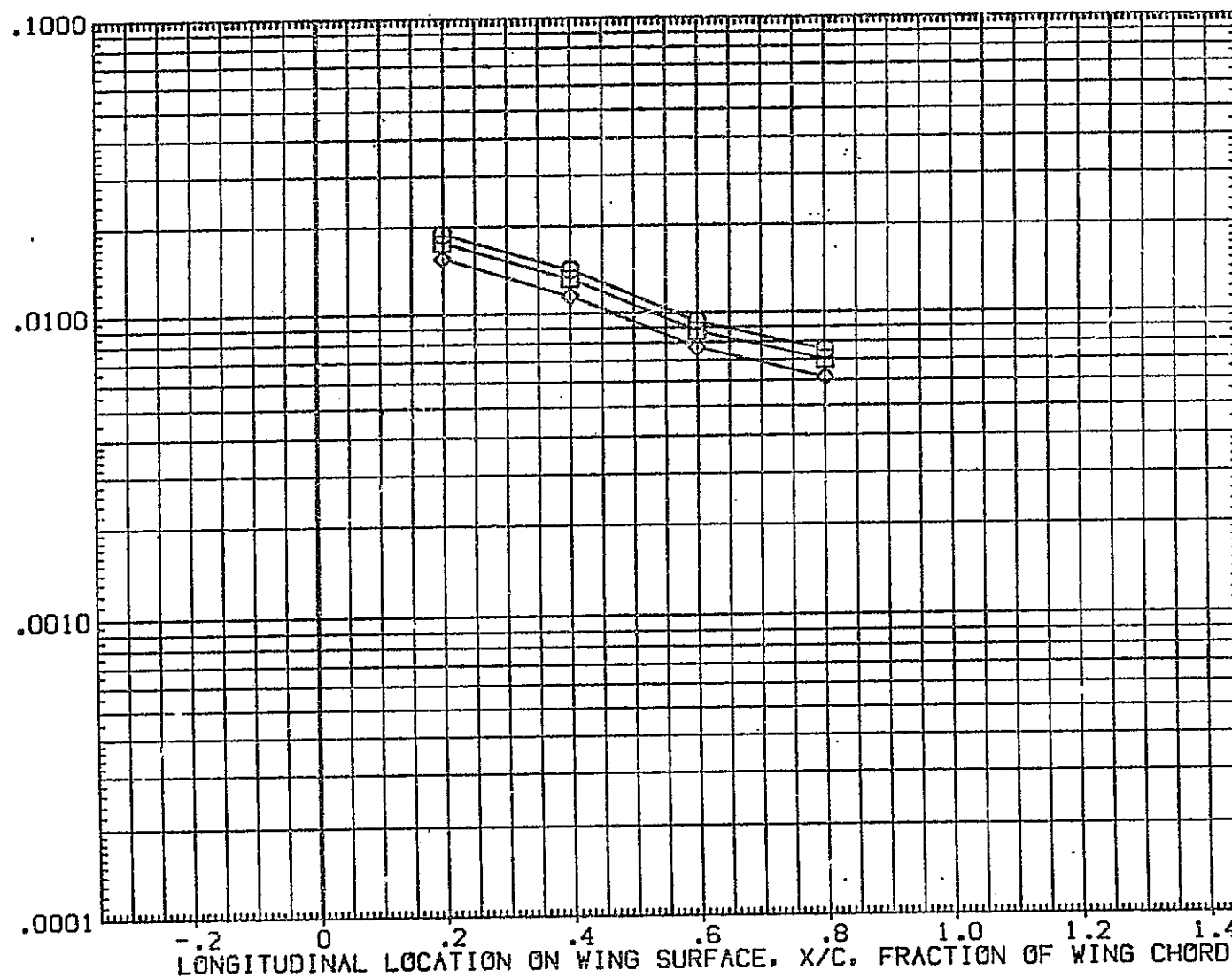
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 8 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS OFF

# IH19 RATIO (ORB+TANK)/ORB ORBITER LOWER WING (DQEW03)

SYMBOL HAW/HT 2Y/B ALPHA  
 ◇ □ ○ .850 .400 -10.000  
 .900  
 1.000

PARAMETRIC VALUES  
 BETA .000 RM/L .500  
 BLTRIP .000 MACH 19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF., HI/HU

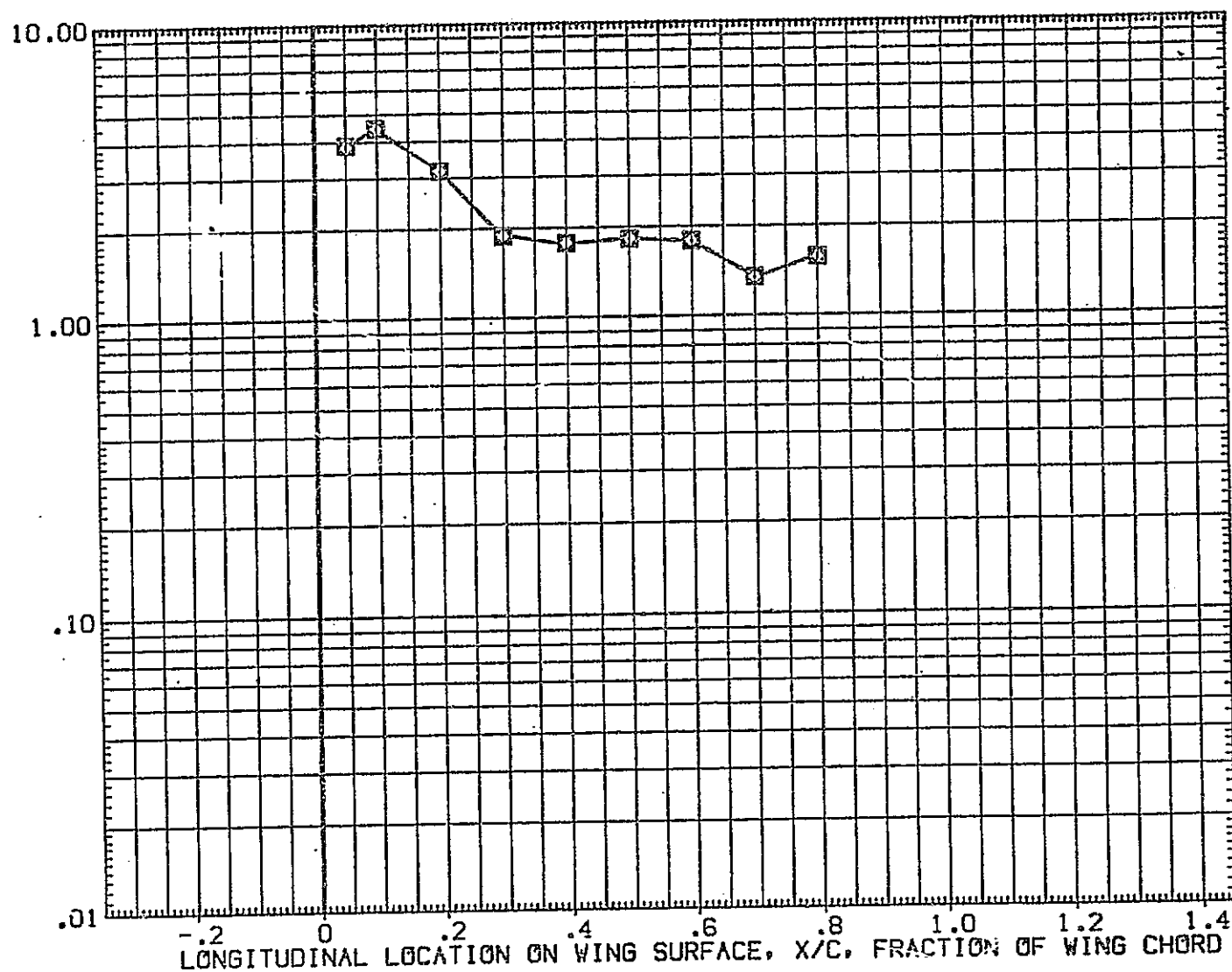


FIG 8 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS OFF



SYMBOL	HAW/HT	2Y/B	ALPHA
◇	.850	.600	-10.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RM/L
BLTRIP	.000	HACH
		.500
		19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.. HI/HU

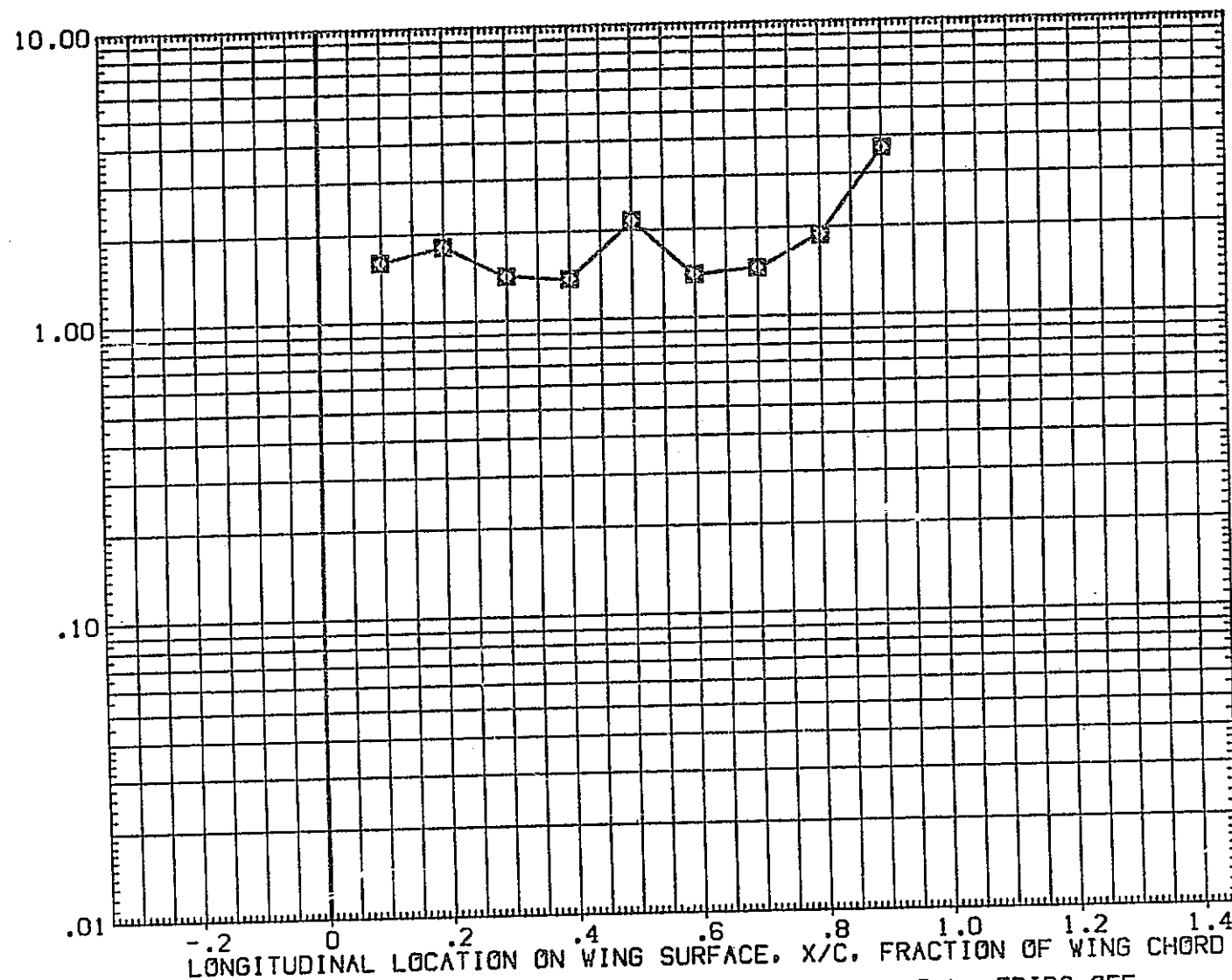


FIG 8 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS OFF

# IH19 RATIO (ORB+TANK)/ORB ORBITER LOWER WING

(DQEW03)

SYMBOL HAW/HT 2Y/B ALPHA  
 ○ .050  
 □ .900  
 ◇ 1.000

PARAMETRIC VALUES  
 BETA .000 RN/L .500  
 BLTRIP .000 MACH 19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.. HI/HU

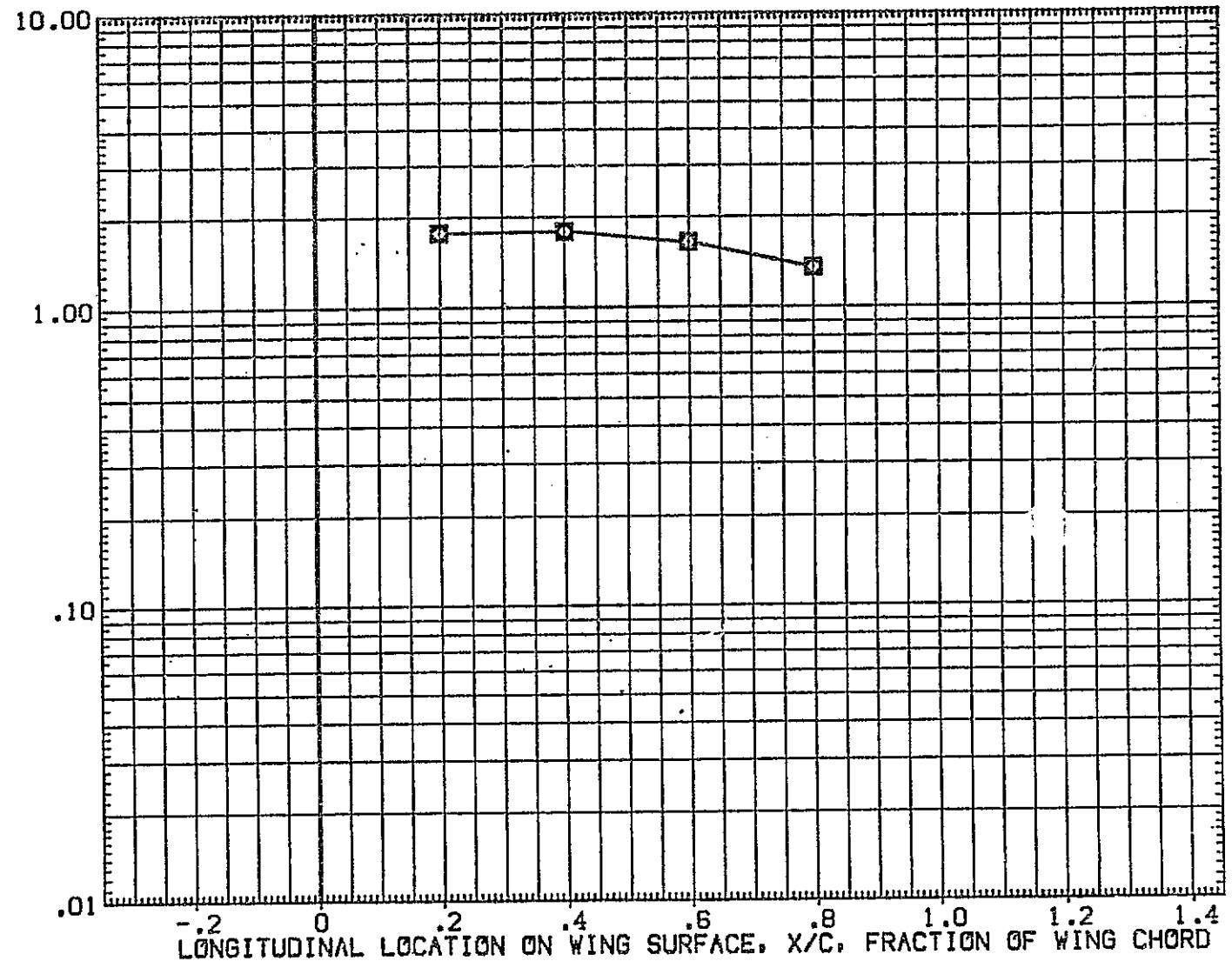


FIG 8 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS OFF

# IH19 RATIO (ORB+TANK)/ORB ORBITER LOWER WING

(DQEW03)

SYMBOL	HAW/HT	2Y/B	ALPHA
◇	.650	.400	-5.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L
BLTRIP	.000	HACH
		.500
		19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.. HI/HU

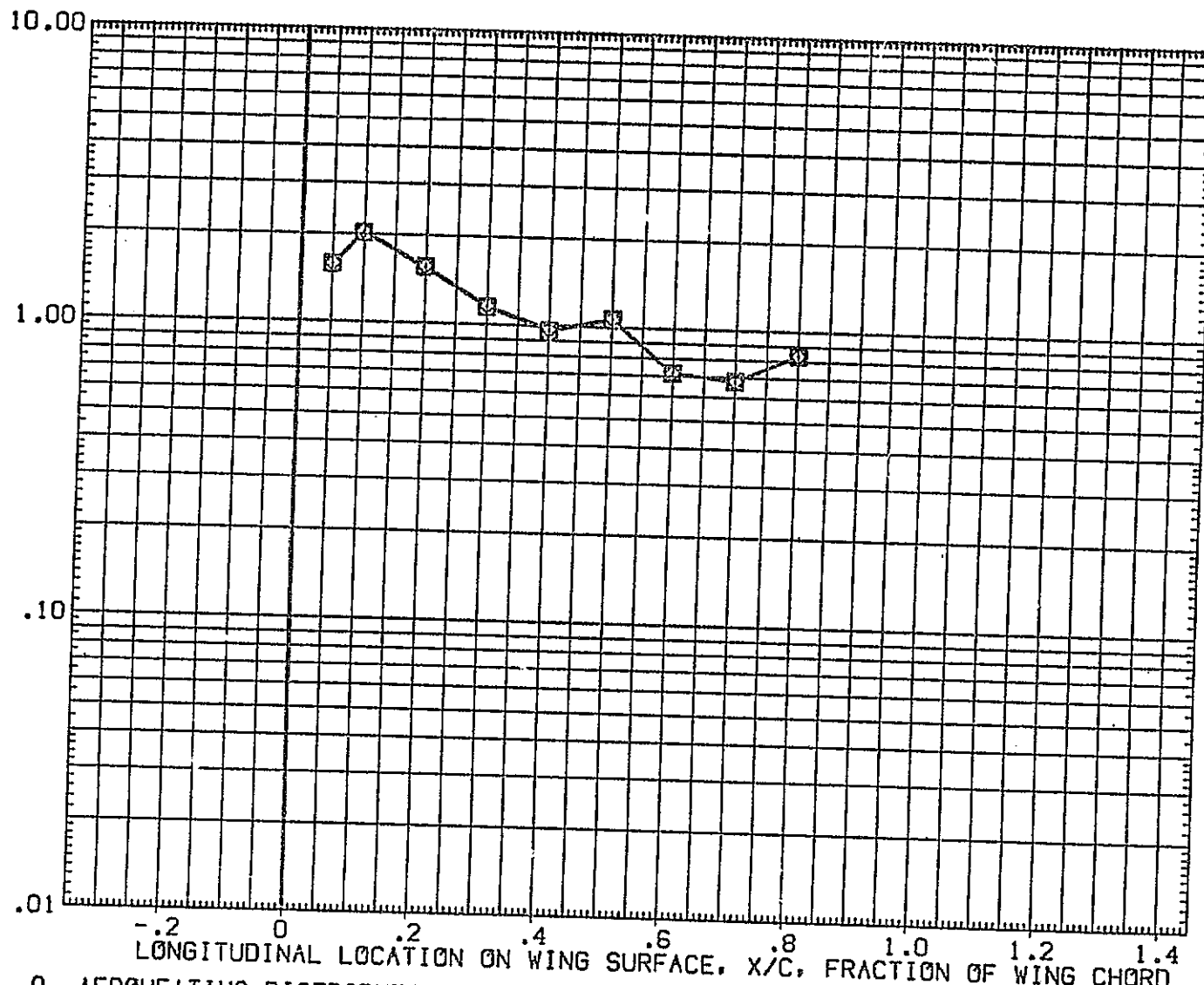


FIG 8 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS OFF

## IH19 RATIO (ORB+TANK)/ORB ORBITER LOWER WING

(DQEW03)

SYMBOL	HAW/HT	2Y/B	ALPHA
○	.850	.600	-5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RM/L	.500
BLTRIP	.000	HACH	19.900

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.. HI/HU

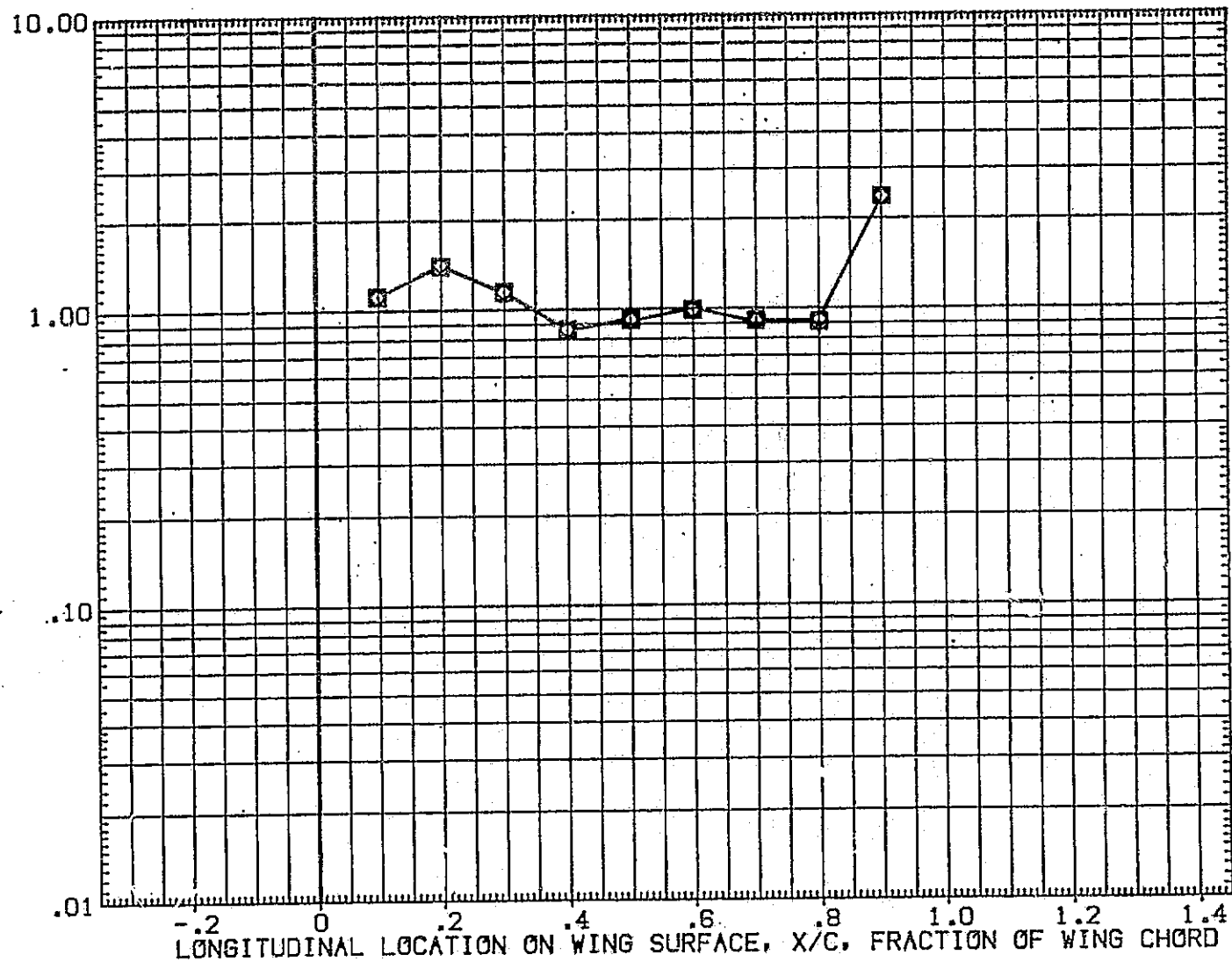


FIG 8 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS OFF

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

## IH19 RATIO (ORB+TANK)/ORB ORBITER LOWER WING

(DQEW03)

SYMBOL	HAW/HT	2Y/B	ALPHA
◇	.850	.800	-5.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L
BLTRIP	.000	MACH
		19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.. HI/HU

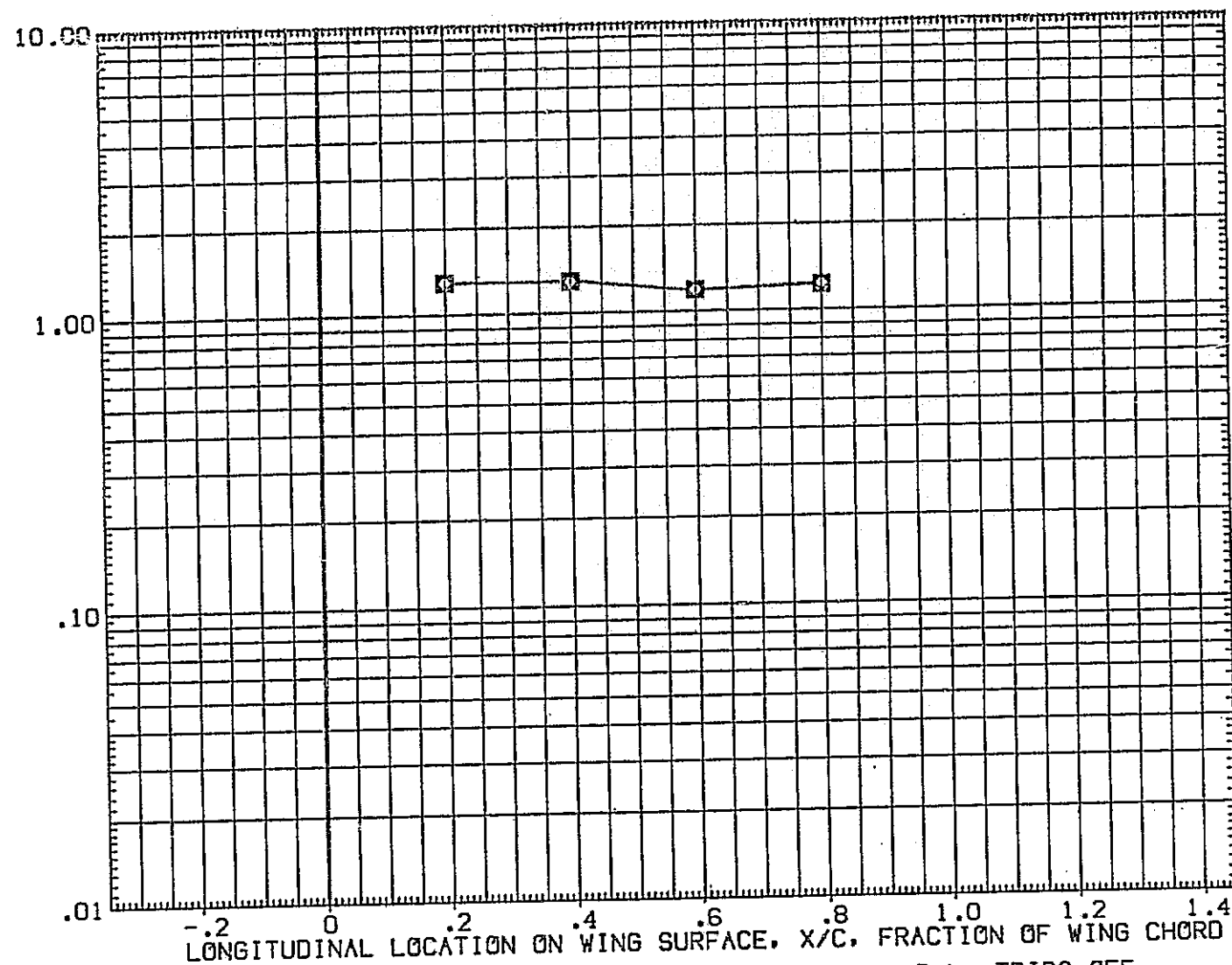


FIG 8 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS OFF

## IH19 RATIO (ORB+TANK)/ORB ORBITER LOWER WING

(DQEW03)

SYMBOL

HAW/HT

2Y/B

ALPHA

BETA  
BLTRIP

PARAMETRIC VALUES

.000 RN/L  
.000 HACH.500  
19.800RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.  $HI/HU$ 

$\square$  .850  
 $\square$  .900  
 $\diamond$  1.000

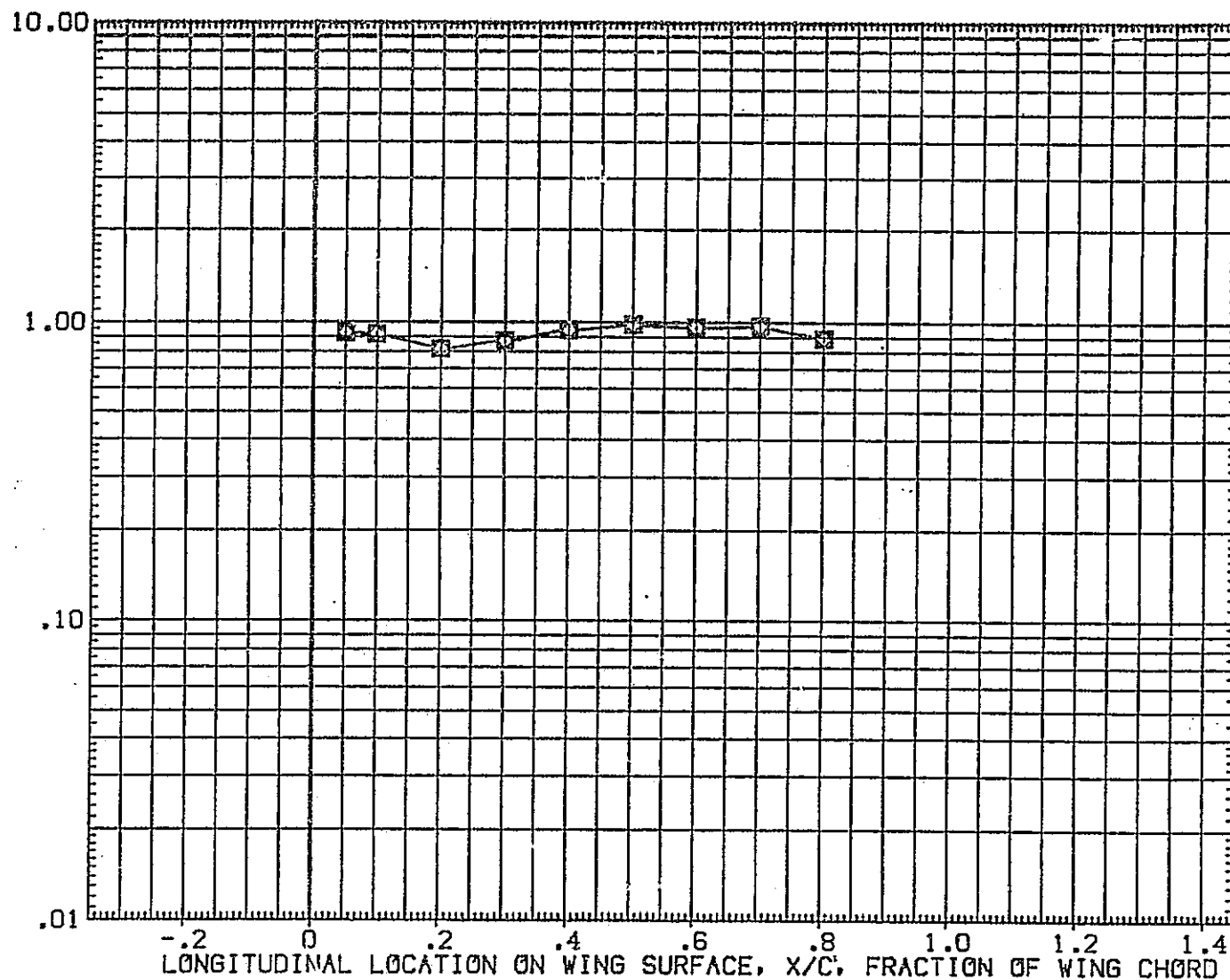


FIG 8 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS OFF

## IH19 RATIO (ORB+TANK)/ORB ORBITER LOWER WING

(DQEW03)

SYMBOL	HAW/HT	2Y/B	ALPHA
○	.850	.600	.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RH/L .500
BLTRIP	.000	MACH 19.800

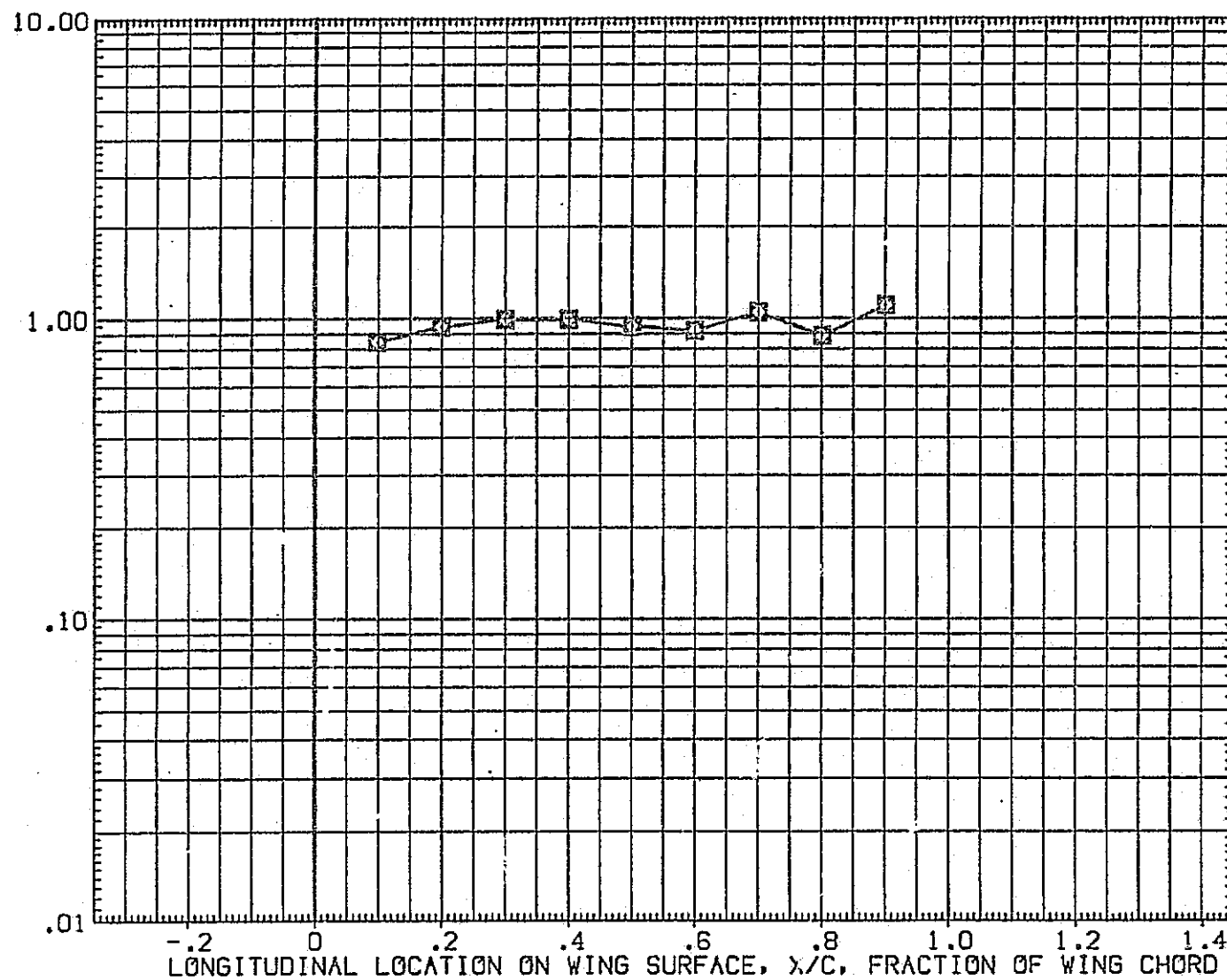
RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $H/H_U$ 

FIG 8 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS OFF

# IH19 RATIO (ORB+TANK)/ORB ORBITER LOWER WING

(DQEW03)

SYMBOL	HAW/HT	2Y/B	ALPHA
○	.850	.800	.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	MACH	19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $H_1/H_U$

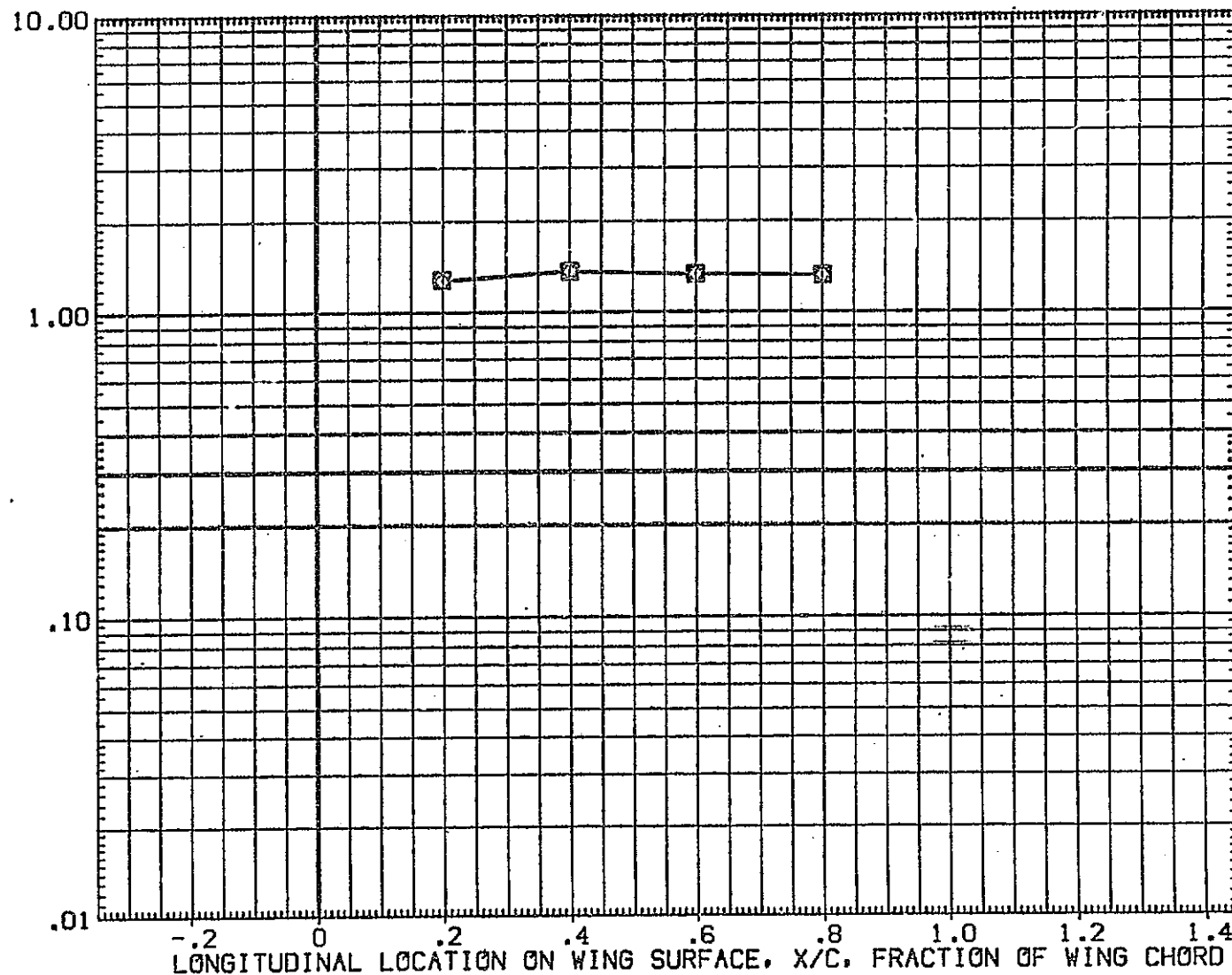


FIG 8 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS OFF

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR



SYMBOL	HAW/HT	2Y/B	ALPHA	BETA	PARAMETRIC VALUES	RN/L	.500
◇ □ □	.850	.400	5.000	.000	BLTRIP	.000	MACH 19.800
	.900						
	1.000						

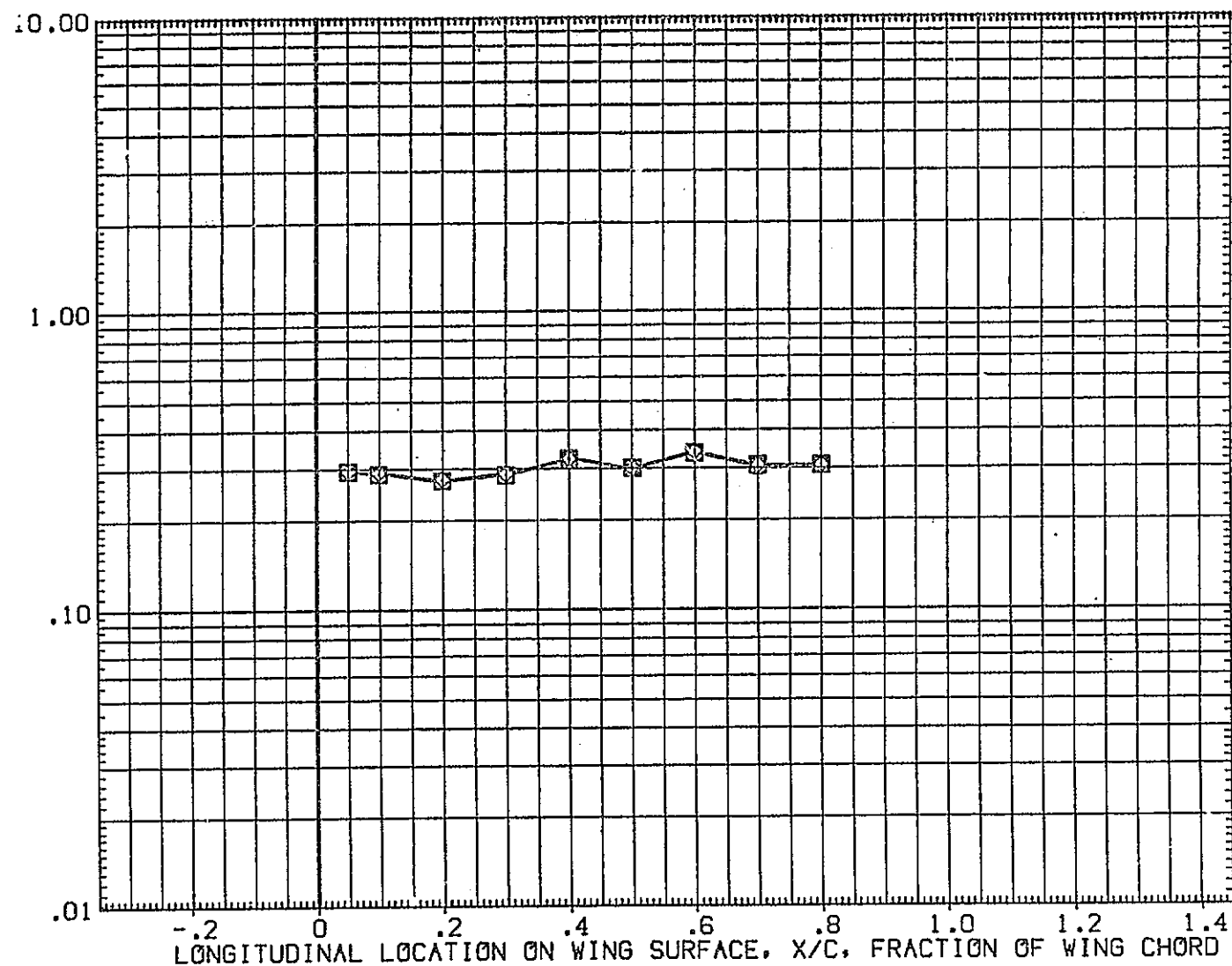
RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $HI/HU$ 

FIG 8 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS OFF

# IH19 RATIO (ORB+TANK)/ORB ORBITER LOWER WING

(DQEW03)

SYMBOL	HAW/HT	2Y/B	ALPHA
○	.850	.600	5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	HACH 19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.. HI/HU

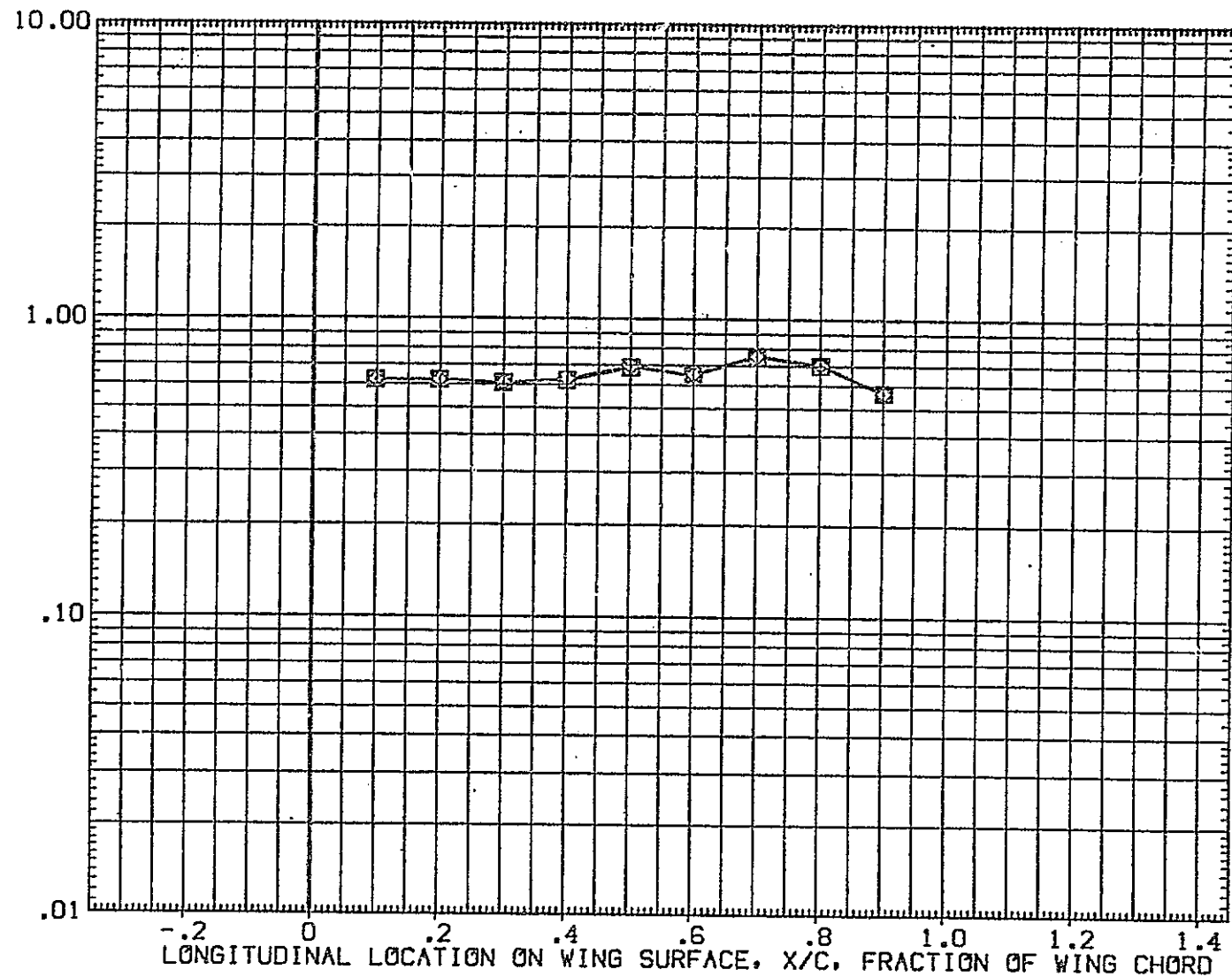


FIG 8 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS OFF

SYMBOL	HAW/HT	2Y/B	ALPHA
◇	.850	.800	5.000
□	.900		
○	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	HACH	19.800

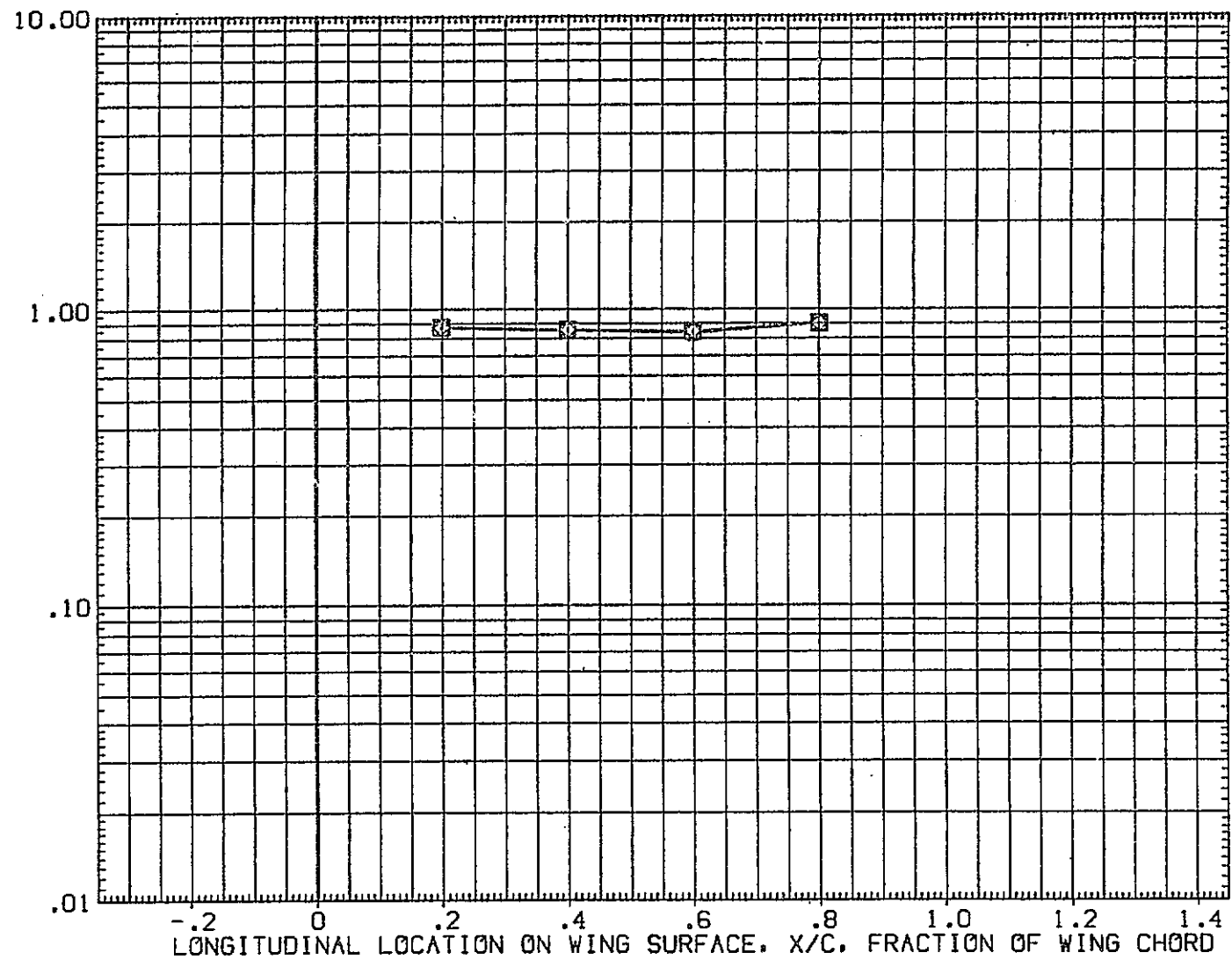
RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $H_i/H_u$ 

FIG 8 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS OFF

# IH19 RATIO (ORB+TANK)/ORB ORBITER LOWER WING

(DQEW03)

SYMBOL	HAB/HT	2Y/B	ALPHA
○	.850	.400	10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	HACH 19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.. HI/HU

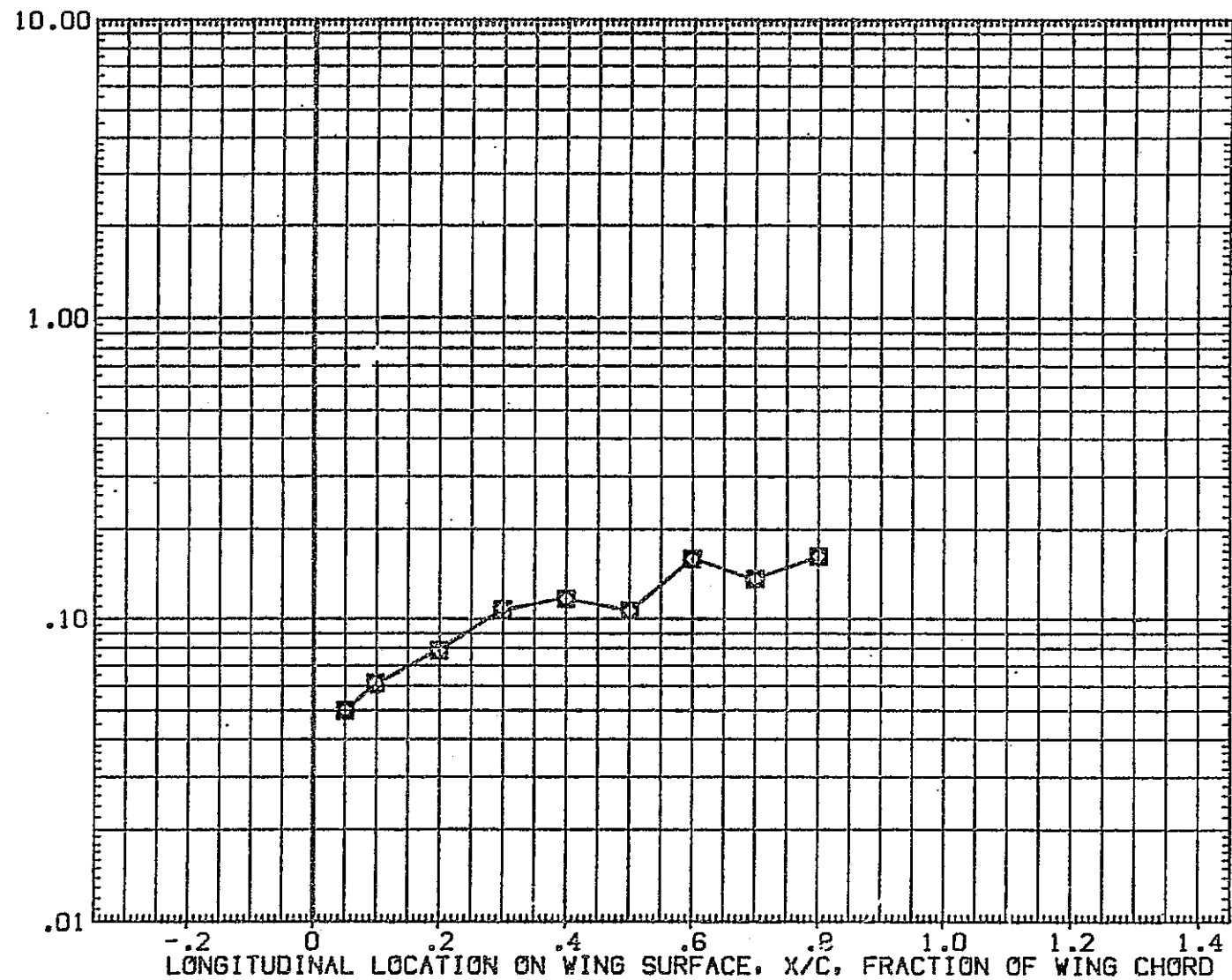


FIG 8. AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS OFF

SYMBOL	HAW/HT	2Y/B	ALPHA
○	.850	.600	10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

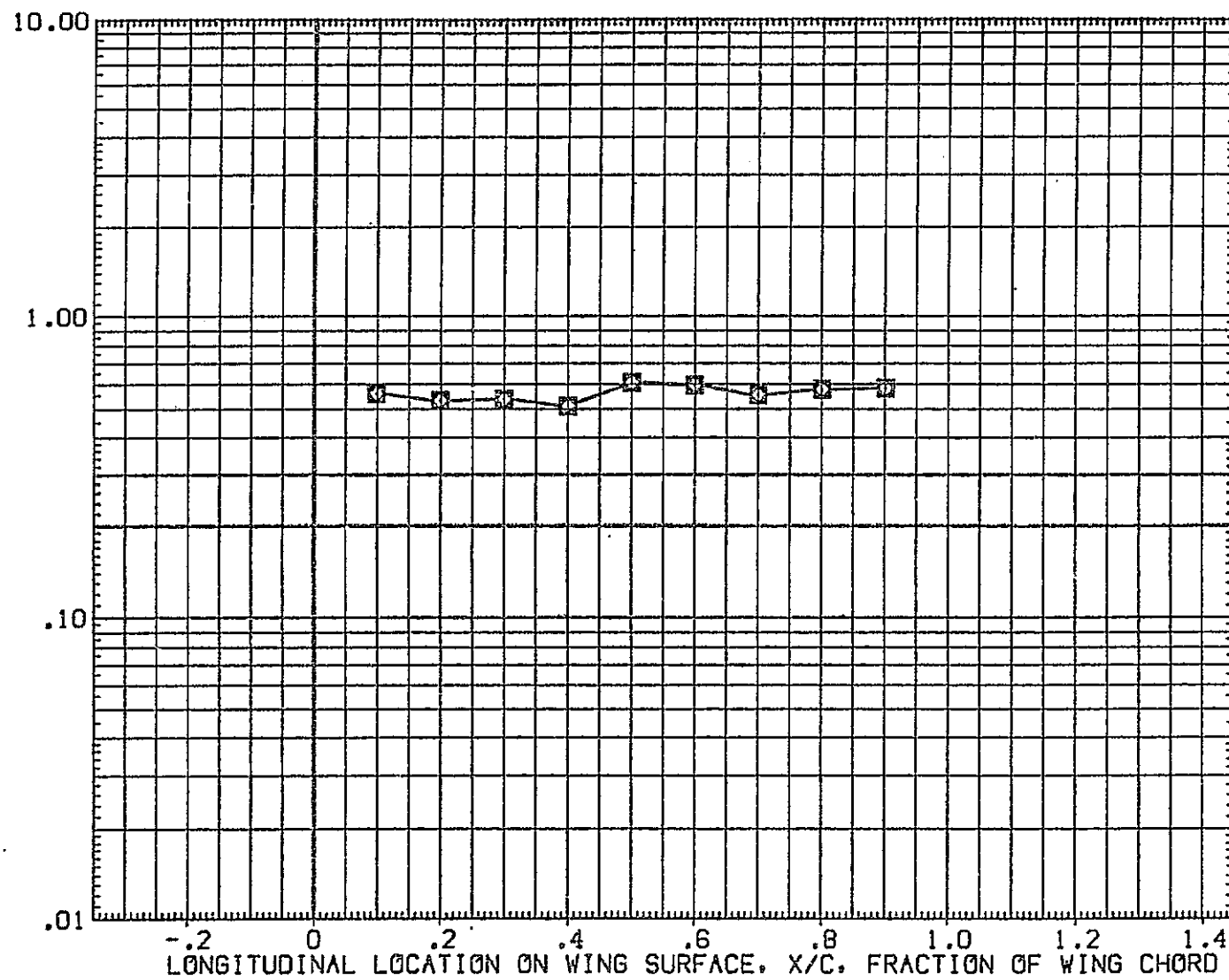
RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $H_i/H_u$ 

FIG 8 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS OFF

# IH19 RATIO (ORB+TANK)/ORB ORBITER LOWER WING

(DQEW03)

SYMBOL	HAY/HT	2Y/B	ALPHA
□	.850	.800	10.000
◇	.900		
	1.000		

PARAMETRIC VALUES		
BETA	.000	RM/L .500
BLTRIP	.000	HACH 19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF., HI/HU

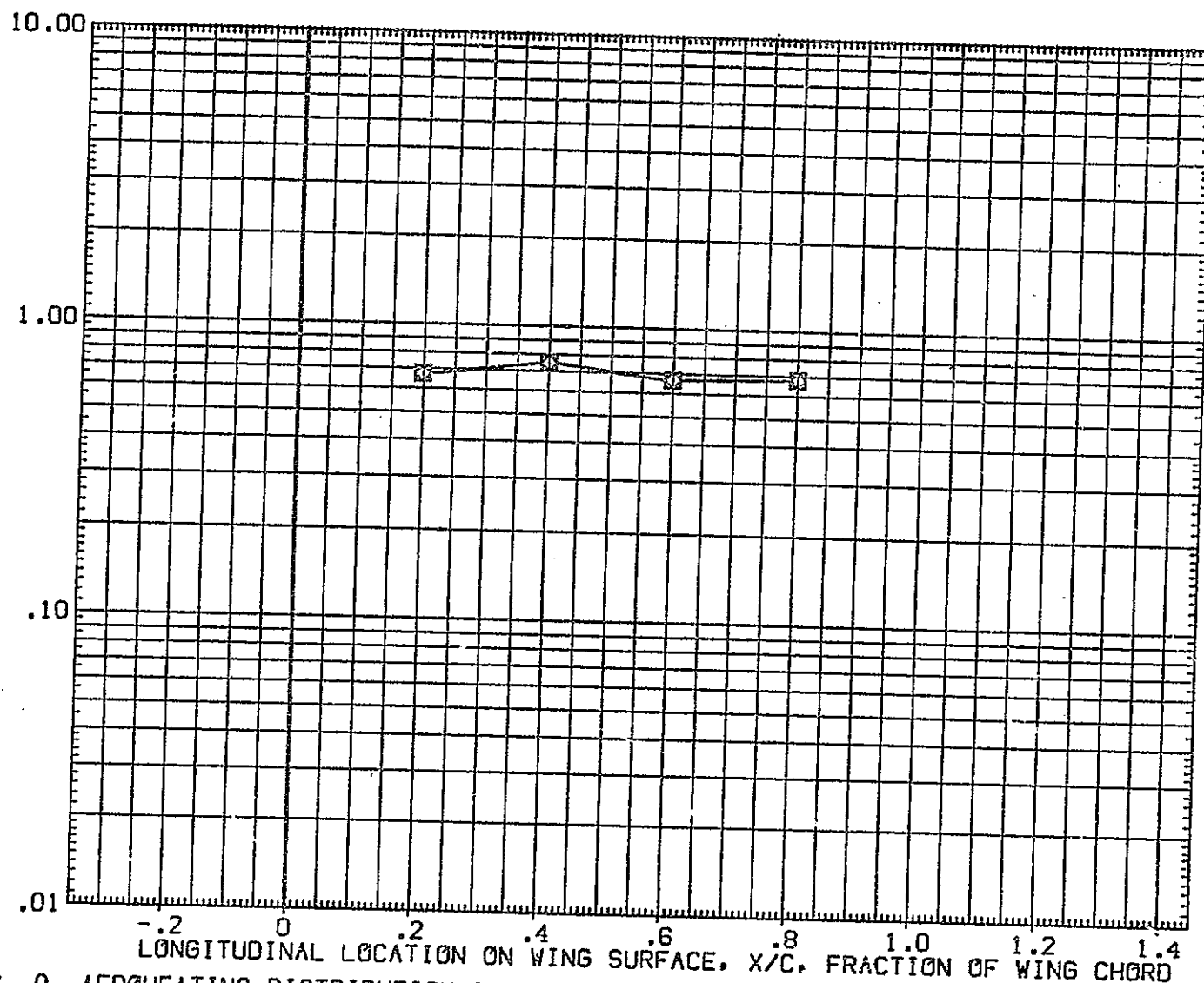


FIG 8 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS OFF

SYMBOL	HAW/HT	2Y/B	ALPHA
◇	.850	.400	-10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	MACH 19.800

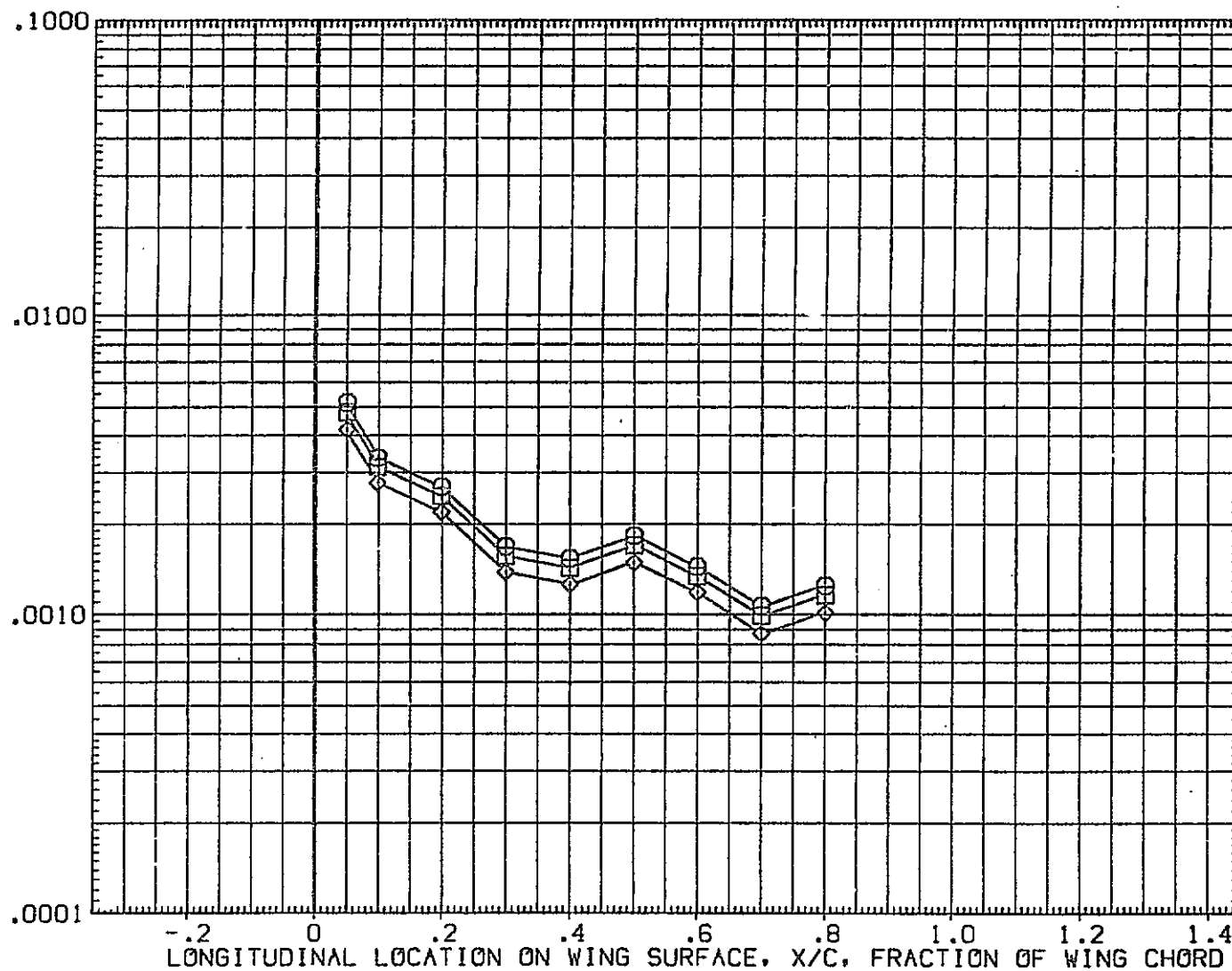
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $h/h_{REF}$ 

FIG 9 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS ON

IH19 B22C7F5M4V7W111

ORBITER LOWER WING

(SQEW05)

SYMBOL	HAW/HT	2Y/B	ALPHA
□	.850	.600	-10.000
◇	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	BLTRIP	BLTRIP
.000	.030	.030
RN/L	MACH	
.500	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

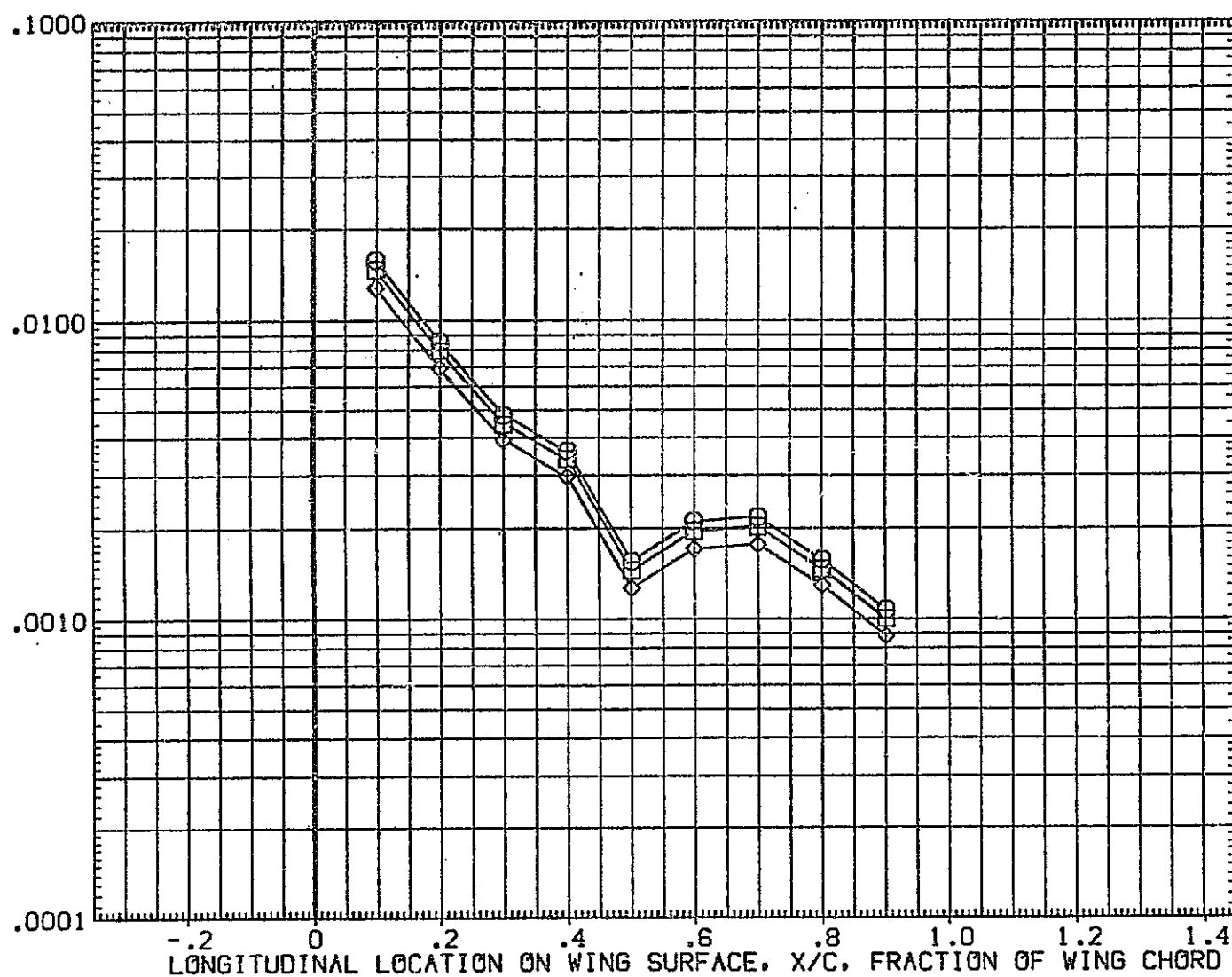


FIG 9 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS ON



IH19 B22C7F5M4V7W111

ORBITER LOWER WING

(SQEW05)

SYMBOL	HAW/HT	2Y/B	ALPHA
○	.850	.800	-10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	MACH 19.800

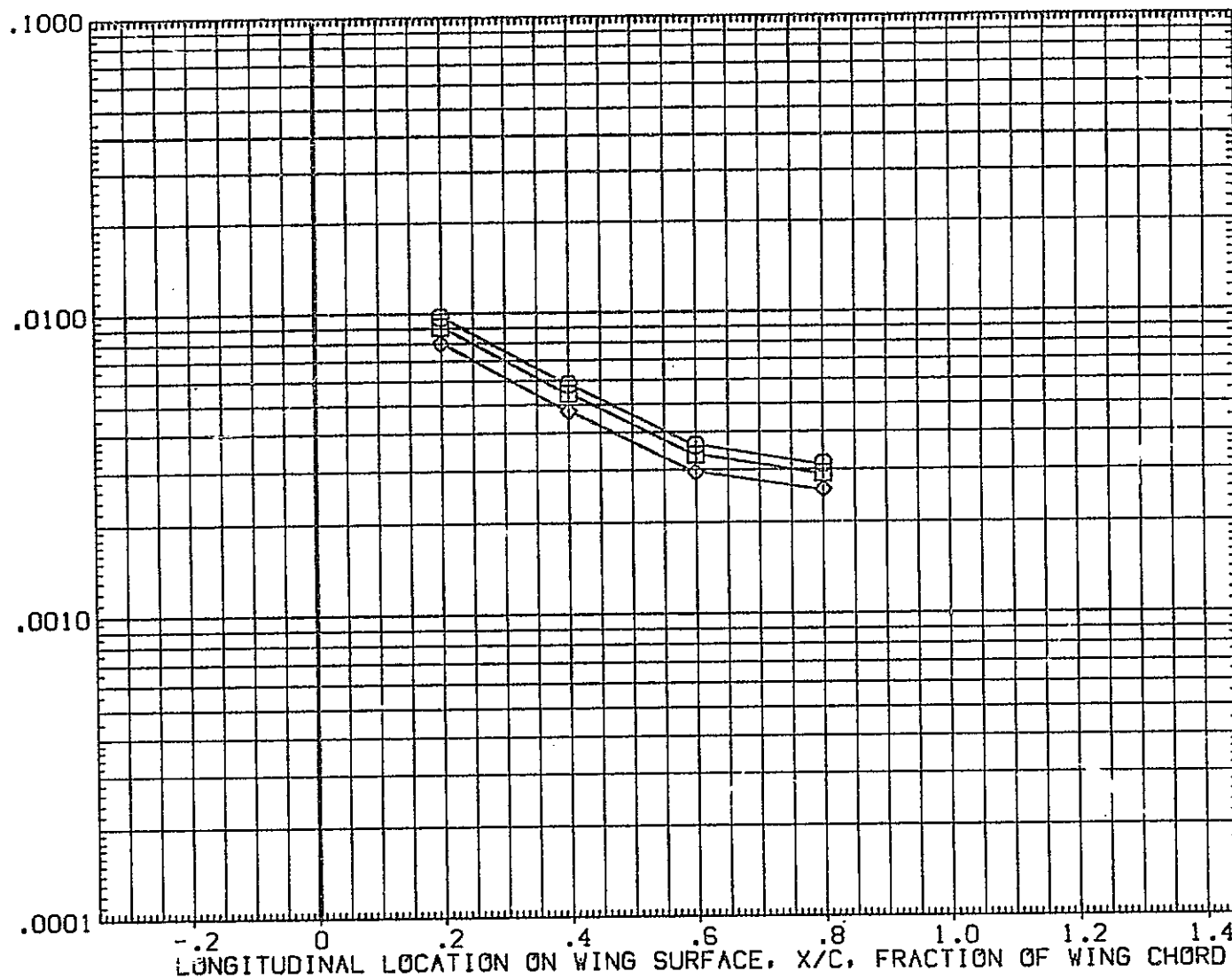
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 9 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS ON

IH19 B22C7F5M4V7W111

ORBITER LOWER WING

(SQEW05)

SYMBOL	HAW/HT	2Y/B	ALPHA
◇	.850	.400	-5.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L
BLTRIP	.030	HACH
		19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

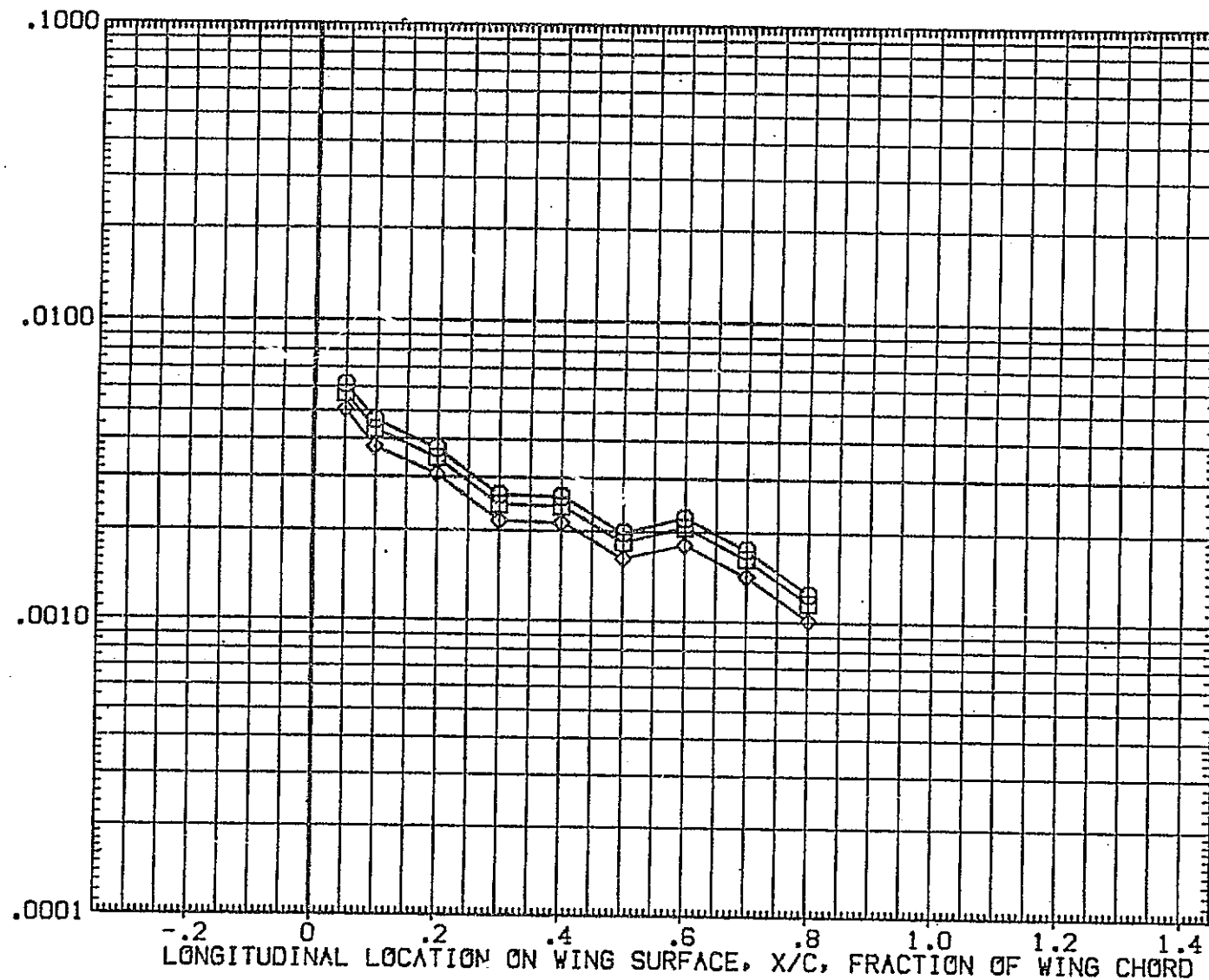


FIG 9 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS ON

IH19 B22C7F5M4V7W111

ORBITER LOWER WING

(SQEW05)

SYMBOL	HAW/HT	2Y/B	ALPHA
◇	.850	.600	-5.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L
BLTRIP	.030	MACH
		19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

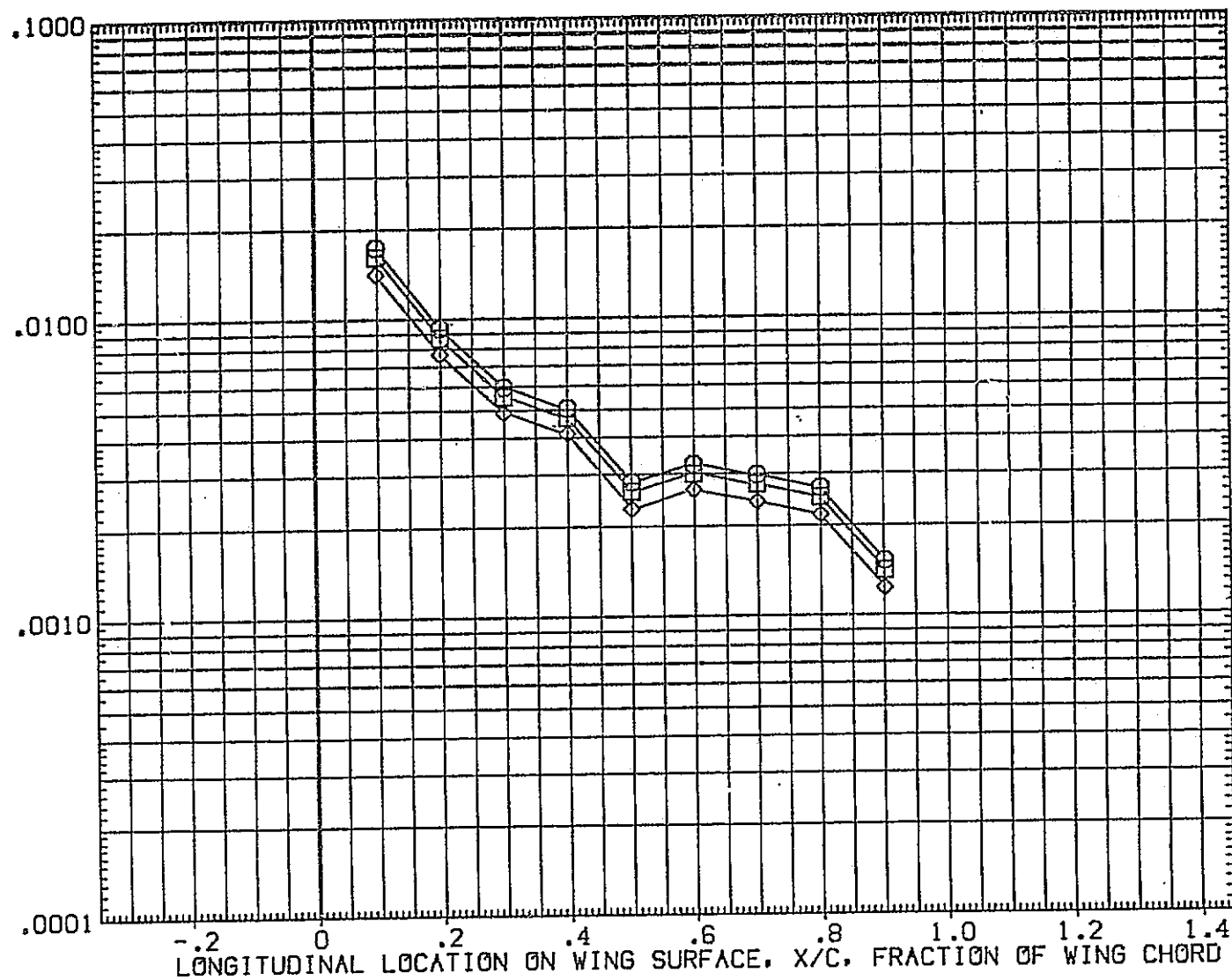


FIG 9 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS ON

IH19 B22C7F5M4V7W111

ORBITER LOWER WING

(SQEW05)

SYMBOL

HAW/HT

2Y/B

ALPHA

◇ □ ○

.850

.800

-5.000

.900

1.000

BETA  
BLTRIP

PARAMETRIC VALUES

.000

RN/L

.500

.030

HACH

19.000

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

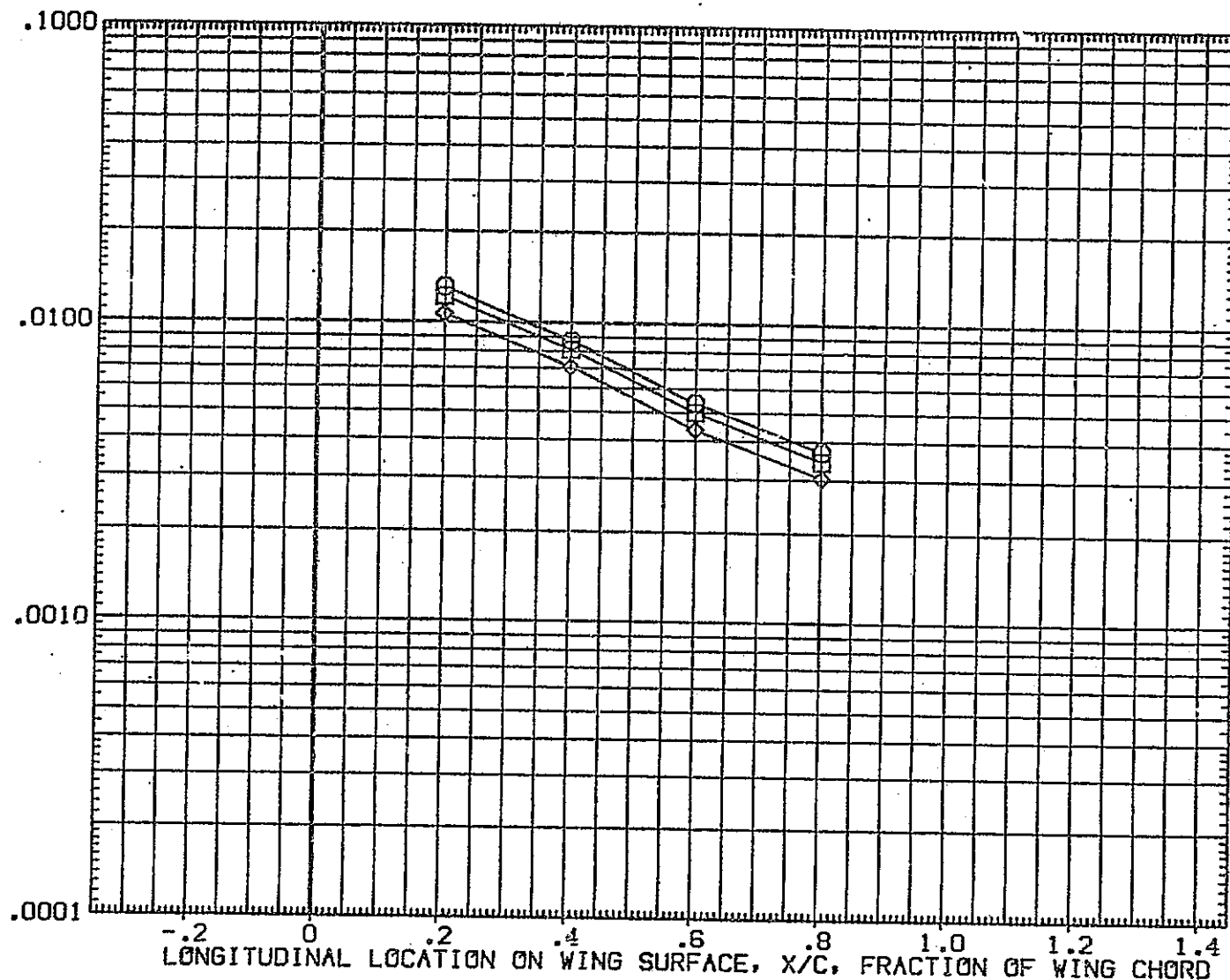


FIG 9 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS ON

IH19 B22C7F5M4V7W111

ORBITER LOWER WING

(SQEW05)

SYMBOL	HAW/PT	2Y/B	ALPHA
◇	.850	.400	.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	MACH 19.800

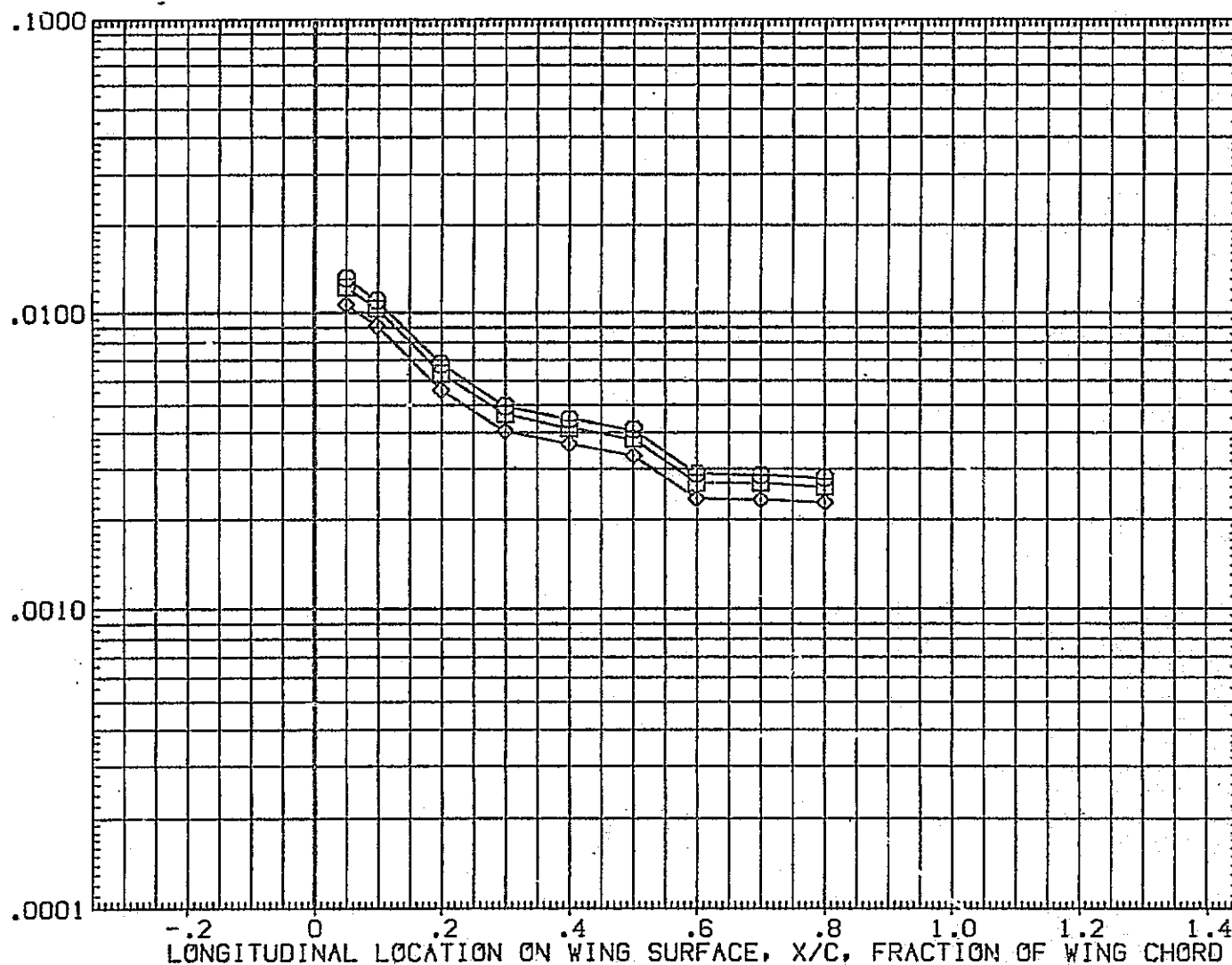
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $h/h_{REF}$ 

FIG 9 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS ON

IH19 B22C7F5M4V7W111

ORBITER LOWER WING

(SQEW05)

SYMBOL

HAB/HT

2Y/B

ALPHA

BETA  
BLTRIP

PARAMETRIC VALUES

RN/L  
MACH.500  
19.800

◇ □ ○

.850  
.900  
1.000

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

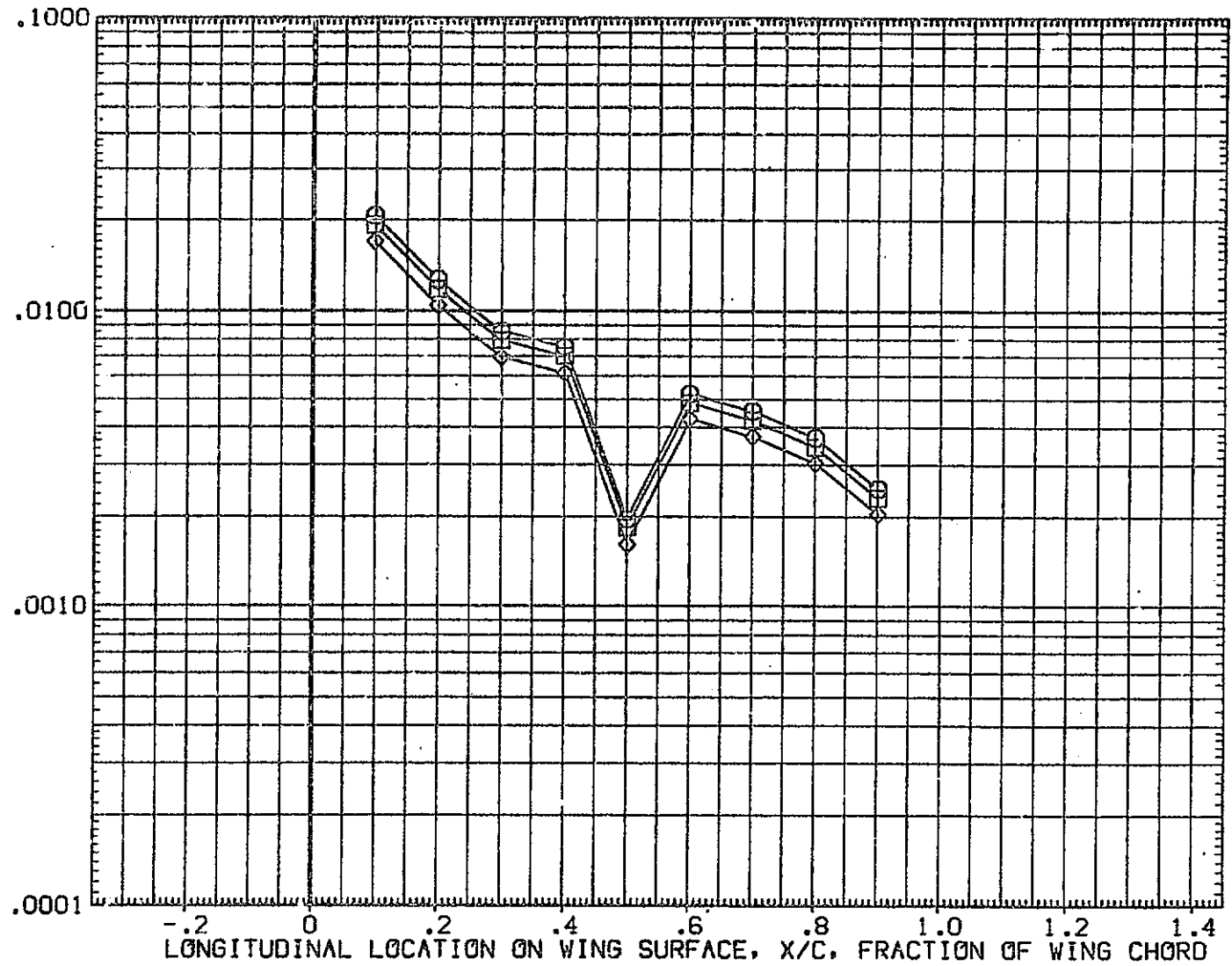


FIG 9 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS ON

IH19 B22C7F5M4V7W111

ORBITER LOWER WING

(SQEW05)

SYMBOL	HAW/HT	2Y/B	ALPHA
◇	.850	.800	.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	HACH 19.800

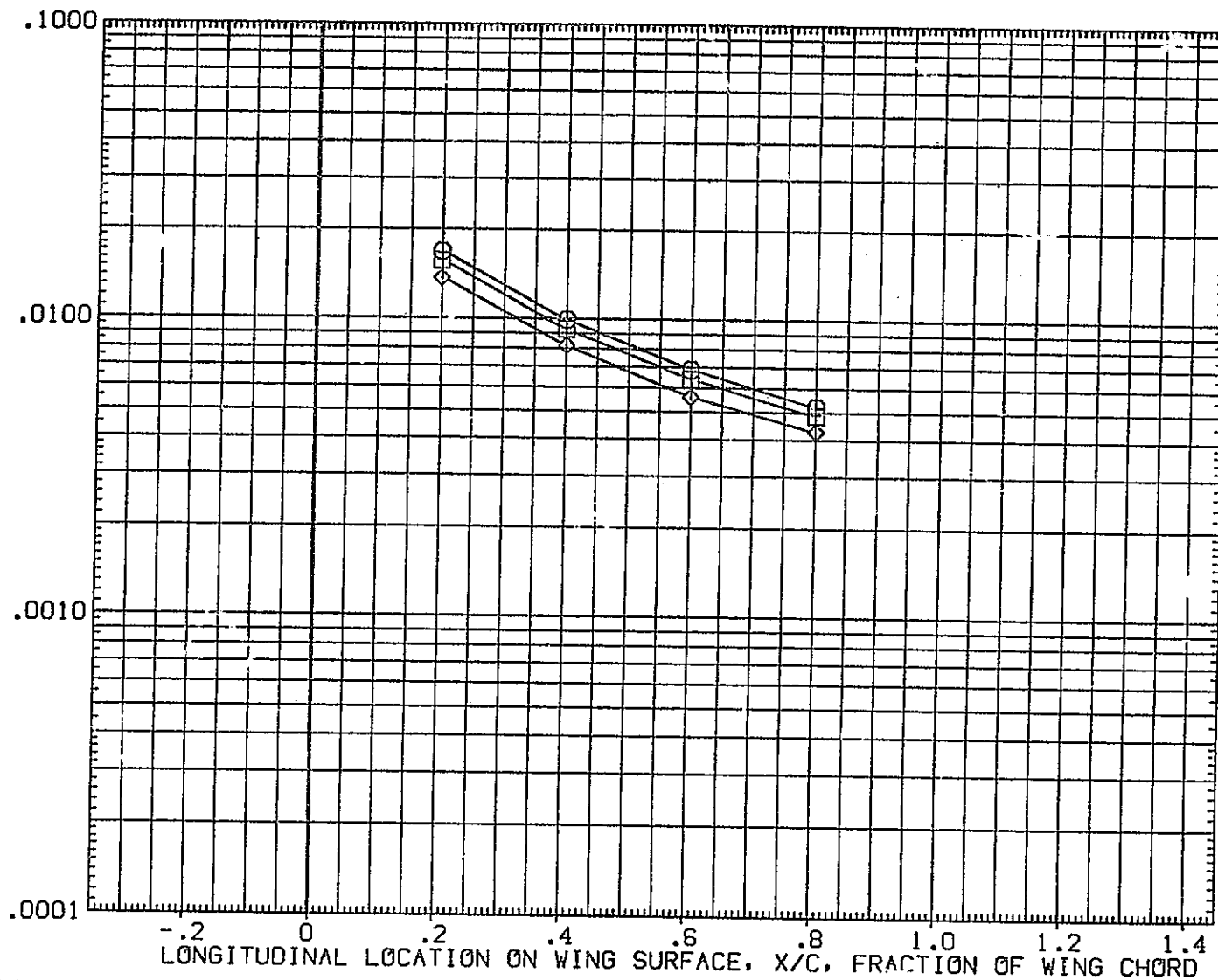
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $h/h_{REF}$ 

FIG 9 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS ON

IH19 B22C7F5M4V7W111

ORBITER LOWER WING

(SQEW05)

SYMBOL

HAW/HT

2Y/B

ALPHA

BETA

PARAMETRIC VALUES

RN/L

.500

BLTRIP

HACH

19.800

◇  
 □  
 ○

.850

.400

5.000

.900

1.000

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

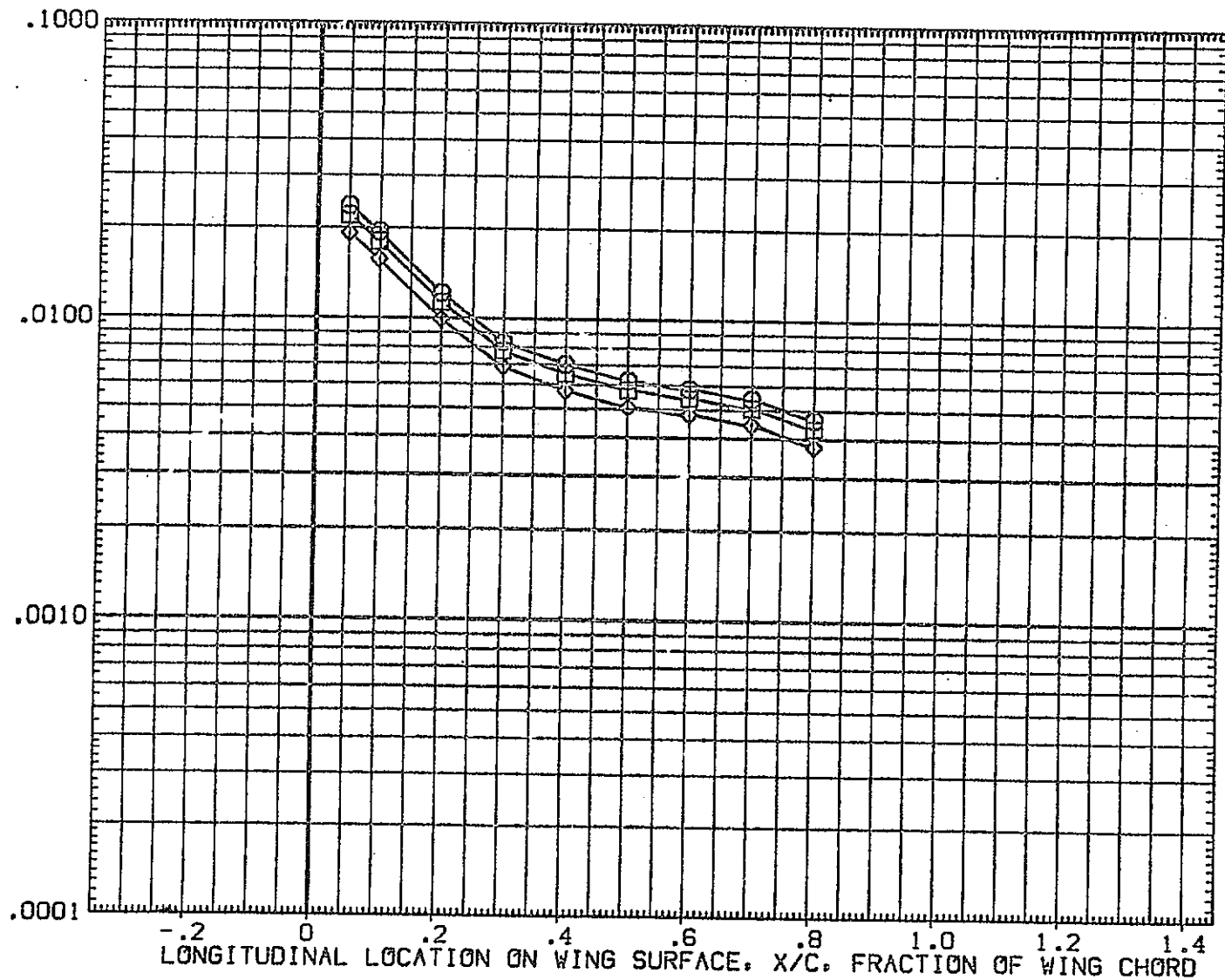


FIG 9 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS ON



IH19 B22C7F5M4V7W111

ORBITER LOWER WING

(SQEW05)

SYMBOL	HAW/HT	2Y/B	ALPHA
○	.850	.600	5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	MACH 19.800

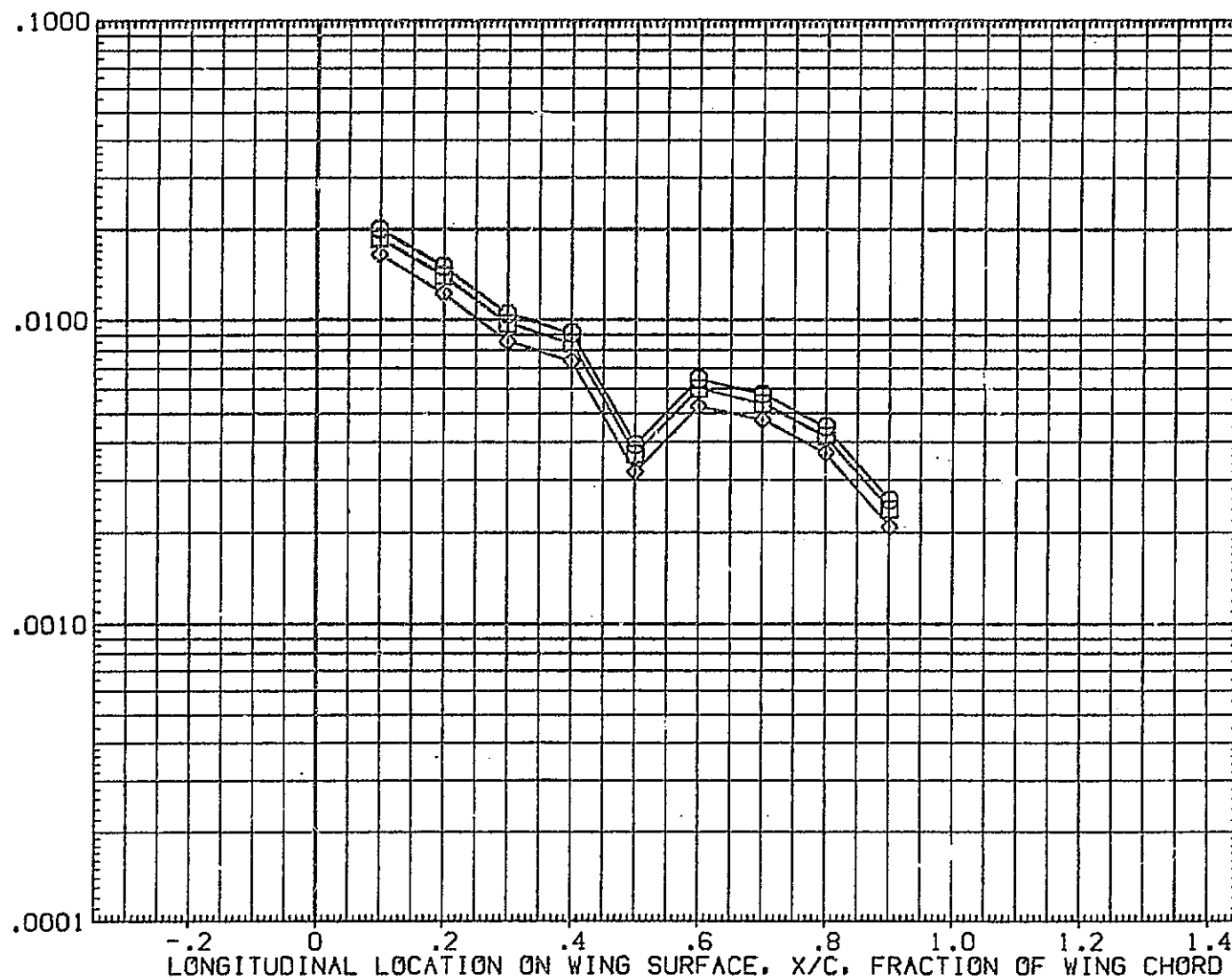
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $h/h_{REF}$ 

FIG 9 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS ON

IH19 B22C7F5M4V7W111

ORBITER LOWER WING

(SQEW05)

SYMBOL

HAW/HT

2Y/B

ALPHA

BETA

PARAMETRIC VALUES

.000 RN/L

.500

BLTRIP

.030 HACH

19.800

◊  
 □  
 ○

.850

.900

1.000

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

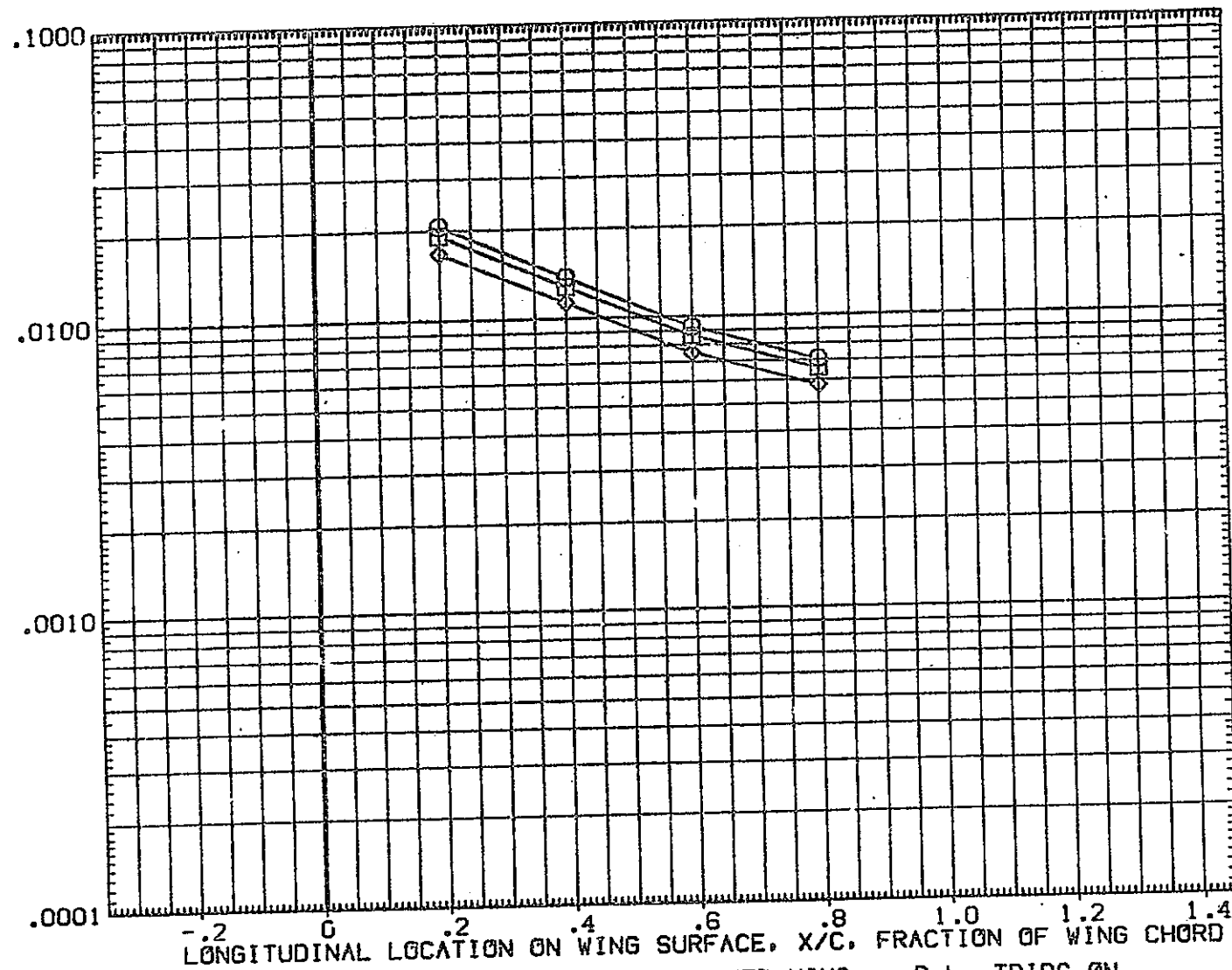


FIG 9 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS ON

IH19 B22C7F5M4V7W111

ORBITER LOWER WING

(SQEW05)

SYMBOL

HAW/HT

2Y/B

M<sub>∞</sub> PHA

PARAMETRIC VALUES

BETA

.000

RN/L

.500

BLTRIP

.030

HACH

19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

○  
 □  
 ◇

.850  
 .900  
 1.000

10.000

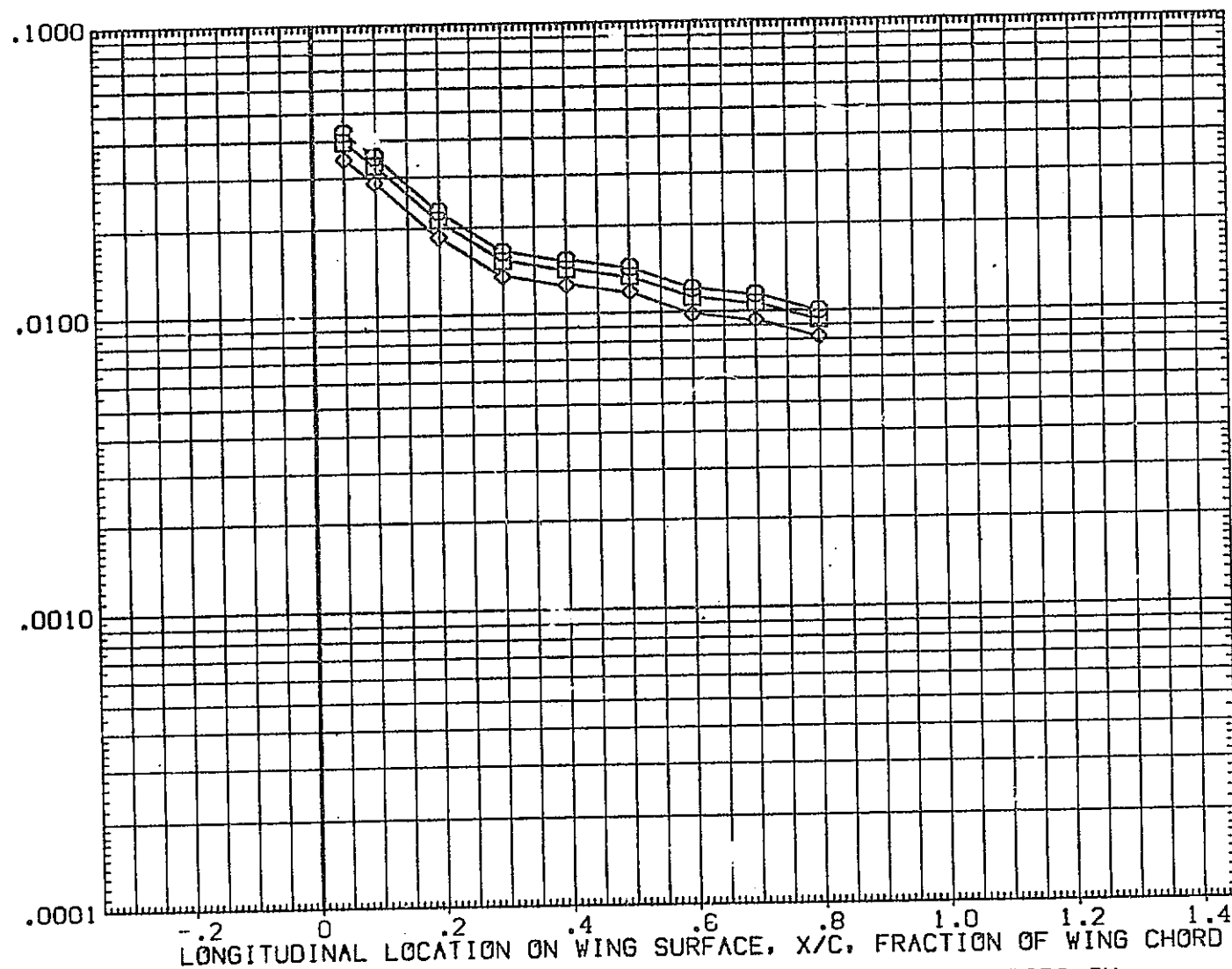


FIG 9 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS ON

IH19 B22C7F5M4V7W111

ORBITER LOWER WING

(SQEW05)

SYMBOL	HAB/HT	2Y/B	ALPHA
◇	.650	.600	10.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L
BLTRIP	.030	HACH
		19.800

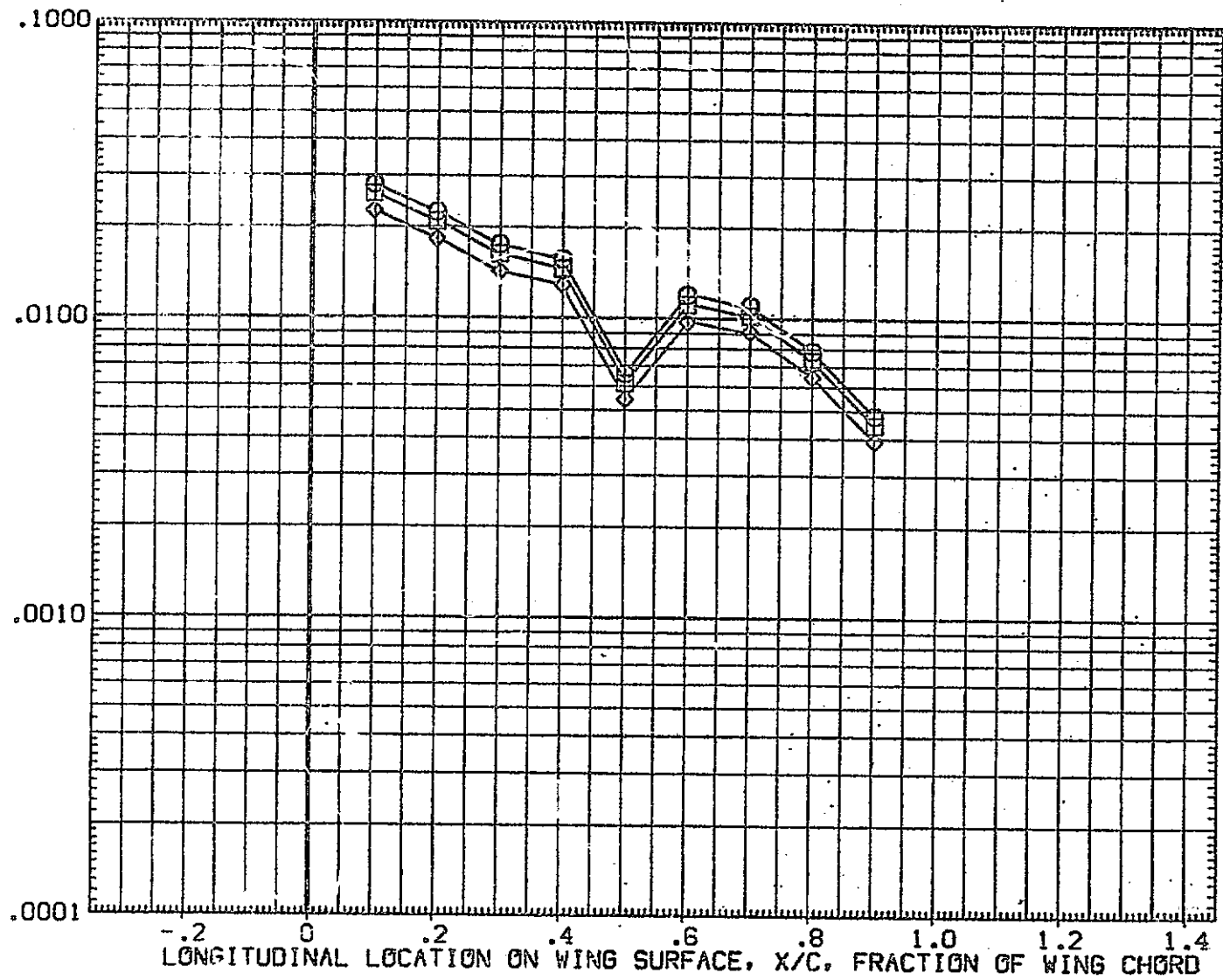
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 9 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS ON

IH19 B22C7F5M4V7W111

ORBITER LOWER WING

(SQEW05)

SYMBOL

HAW/HT

2Y/B

ALPHA

PARAMETRIC VALUES

BETA  
BLTRIP.000 RN/L  
.030 MACH.500  
19.800

◇ □ ○

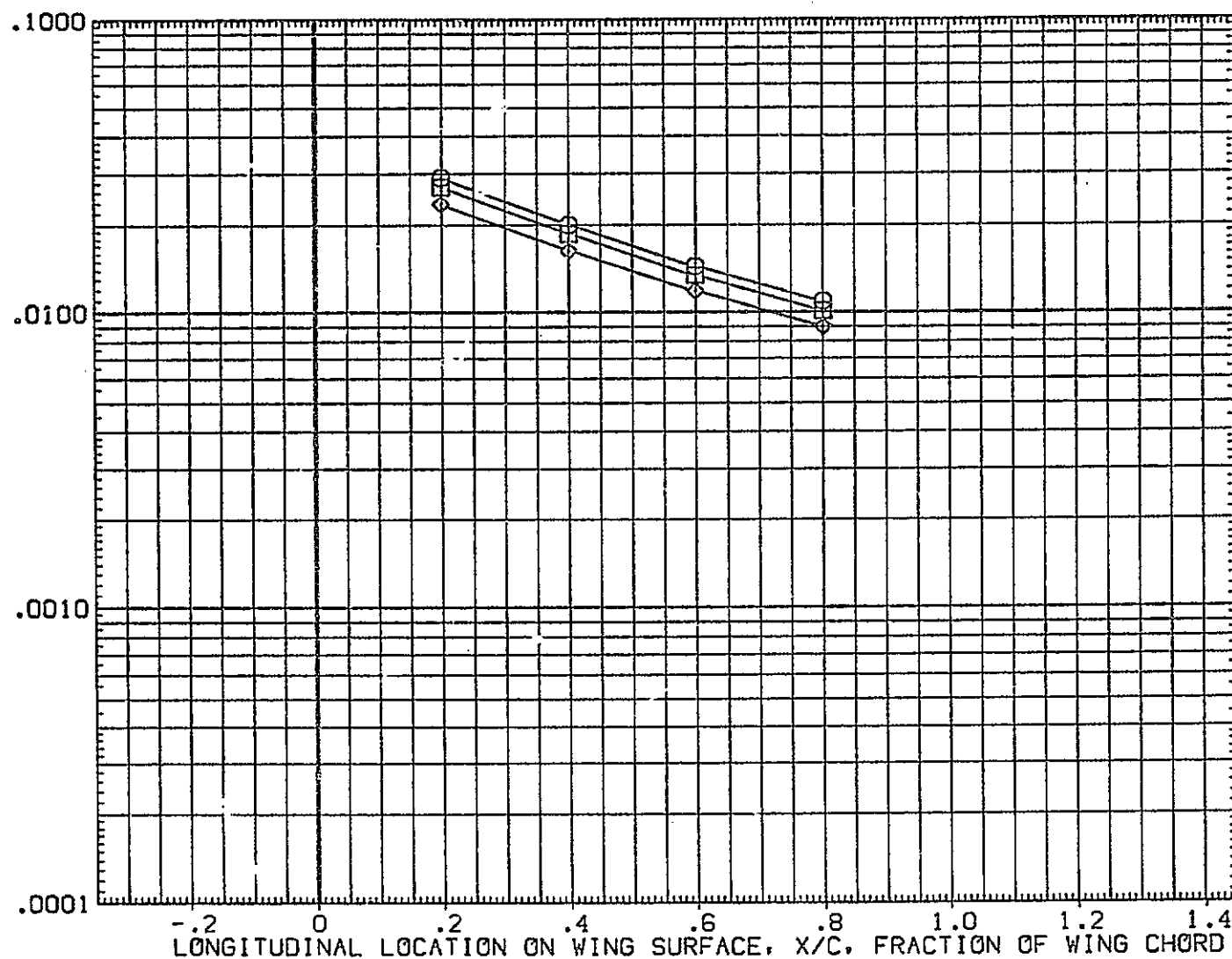
.850  
.900  
1.000RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $h/h_{REF}$ 

FIG 9 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS ON

1H19 B22C7F5M4V7W111 T8 ORBITER LOWER WING

(RGEW04)

SYMBOL  
◇ □ ○

HAW/HT  
.850  
.900  
1.000

2Y/B  
.400

ALPHA  
-13.000

PARAMETRIC VALUES

BETA	.000	RN/L	.500
B-TRIP	.030	DELTAH	.175
MACH	19.800		

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$

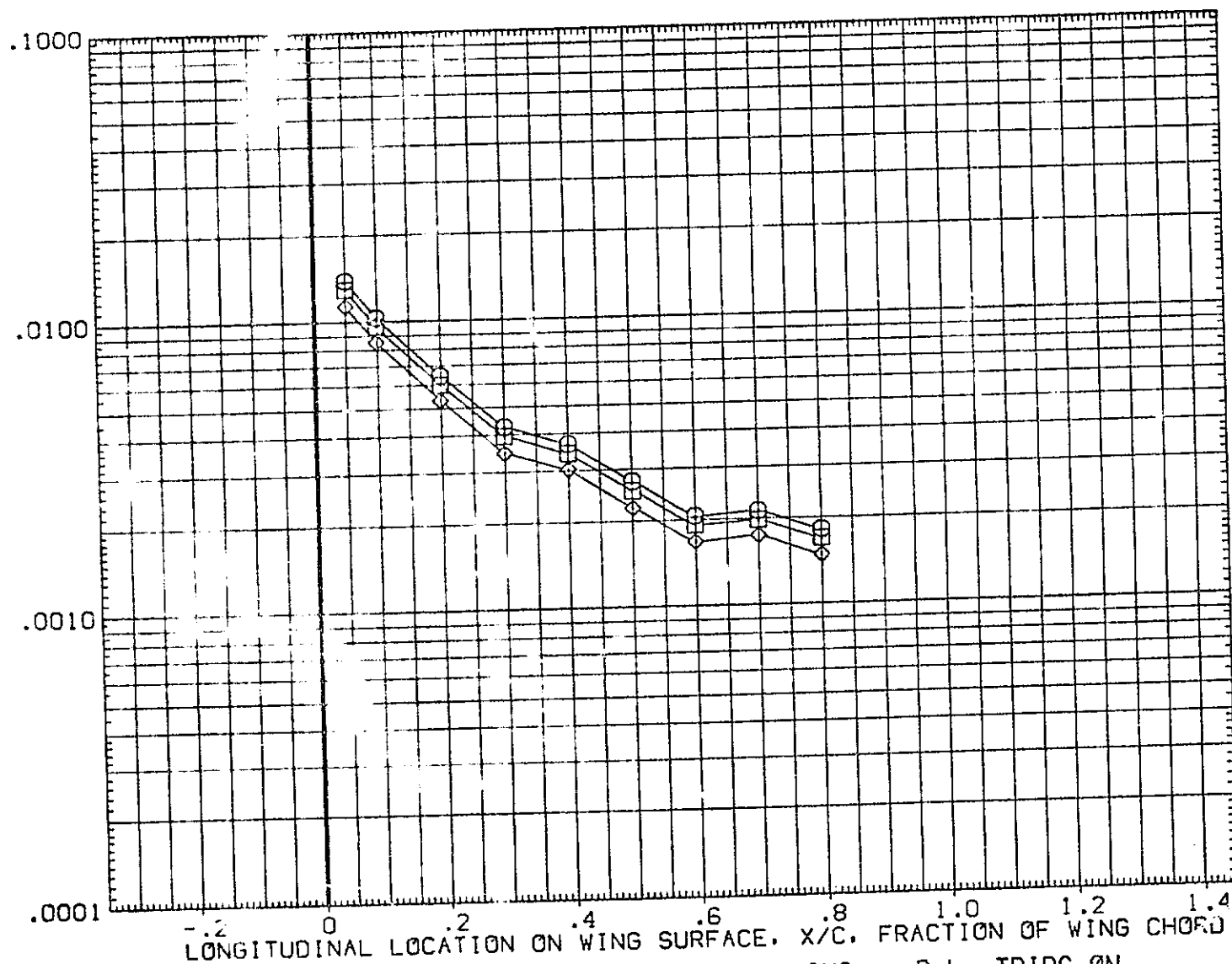


FIG 9 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS ON

SYMBOL	HAW/HT	2Y/B	ALPHA
□	.850	.600	-10.000
◇	.900		
	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	DELTAH .175
MACH	19.800	

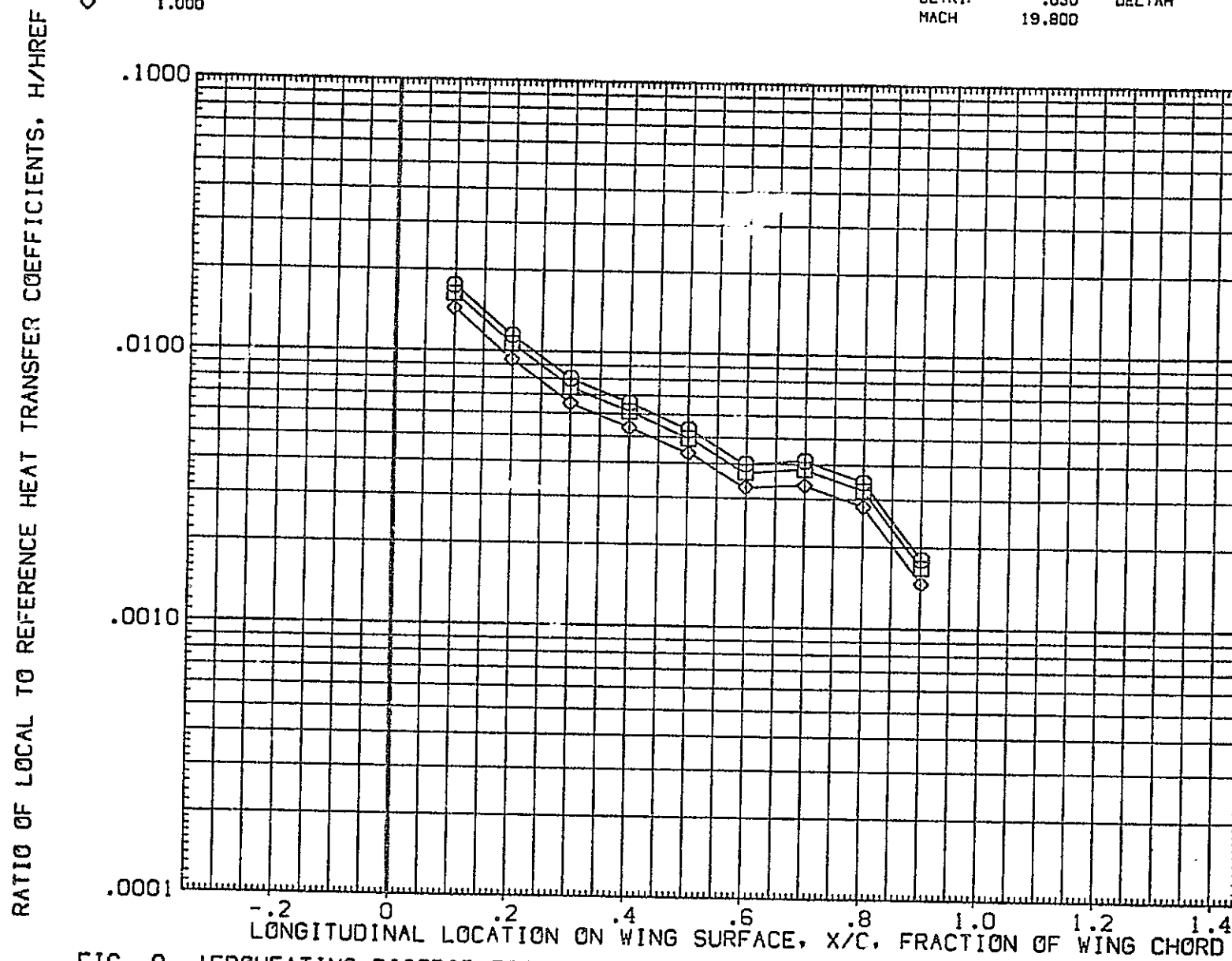


FIG 9 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS ON

IH19 B22C7F5M4V7W111 12 ORBITER LOWER WING

(RQEW04)

SYMBOL	HAW/HT	2Y/B	ALPHA
□	.850	.800	-10.000
◇	.900		
	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTR	.030	DELTAH	.175
MACH	19.800		

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$

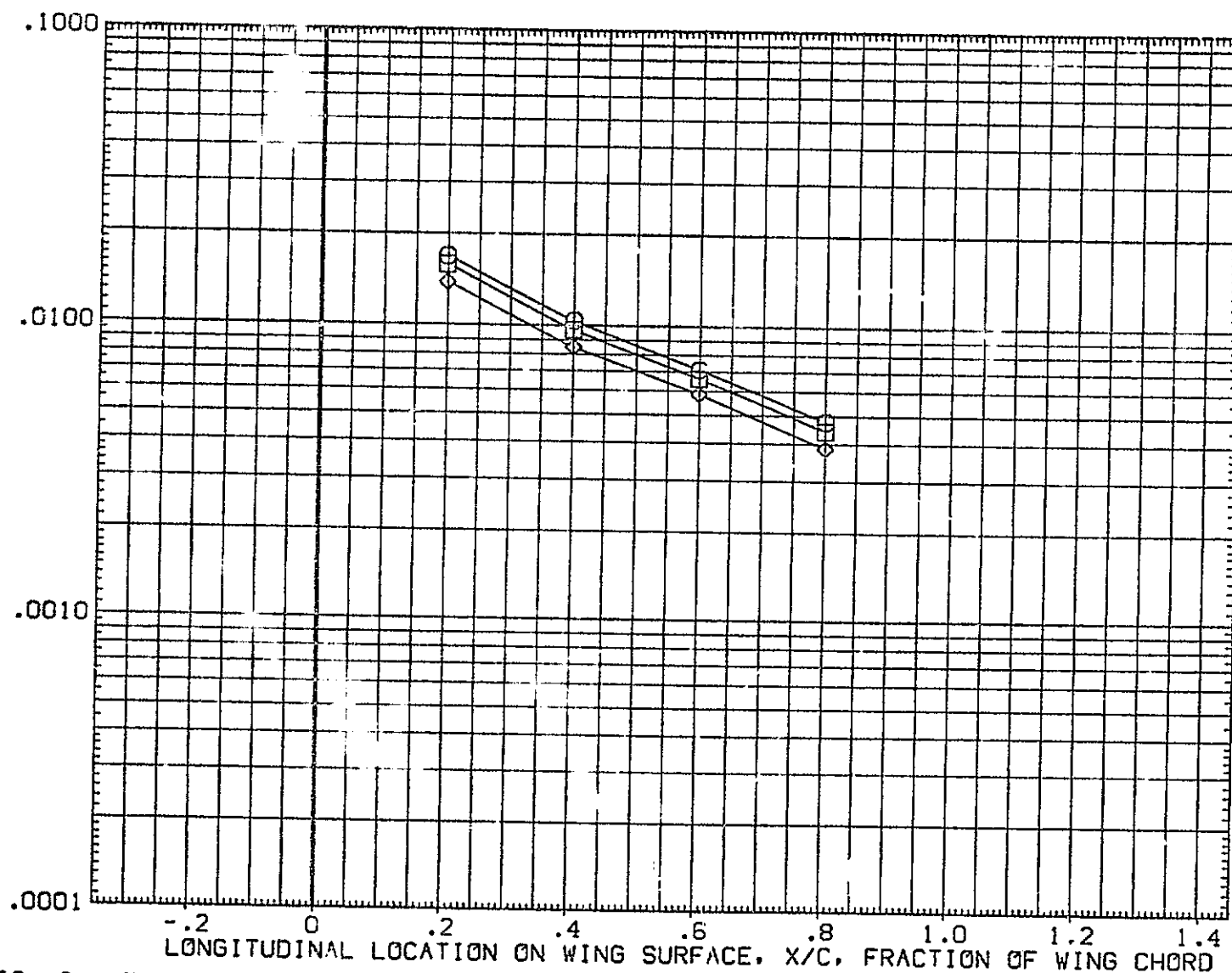


FIG 9 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS ON



SYMBOL	HAW/HT	2Y/B	ALPHA
□	.850	.400	-5.000
◇	.900		
	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.030	DELTAH	.175
MACH	19.800		

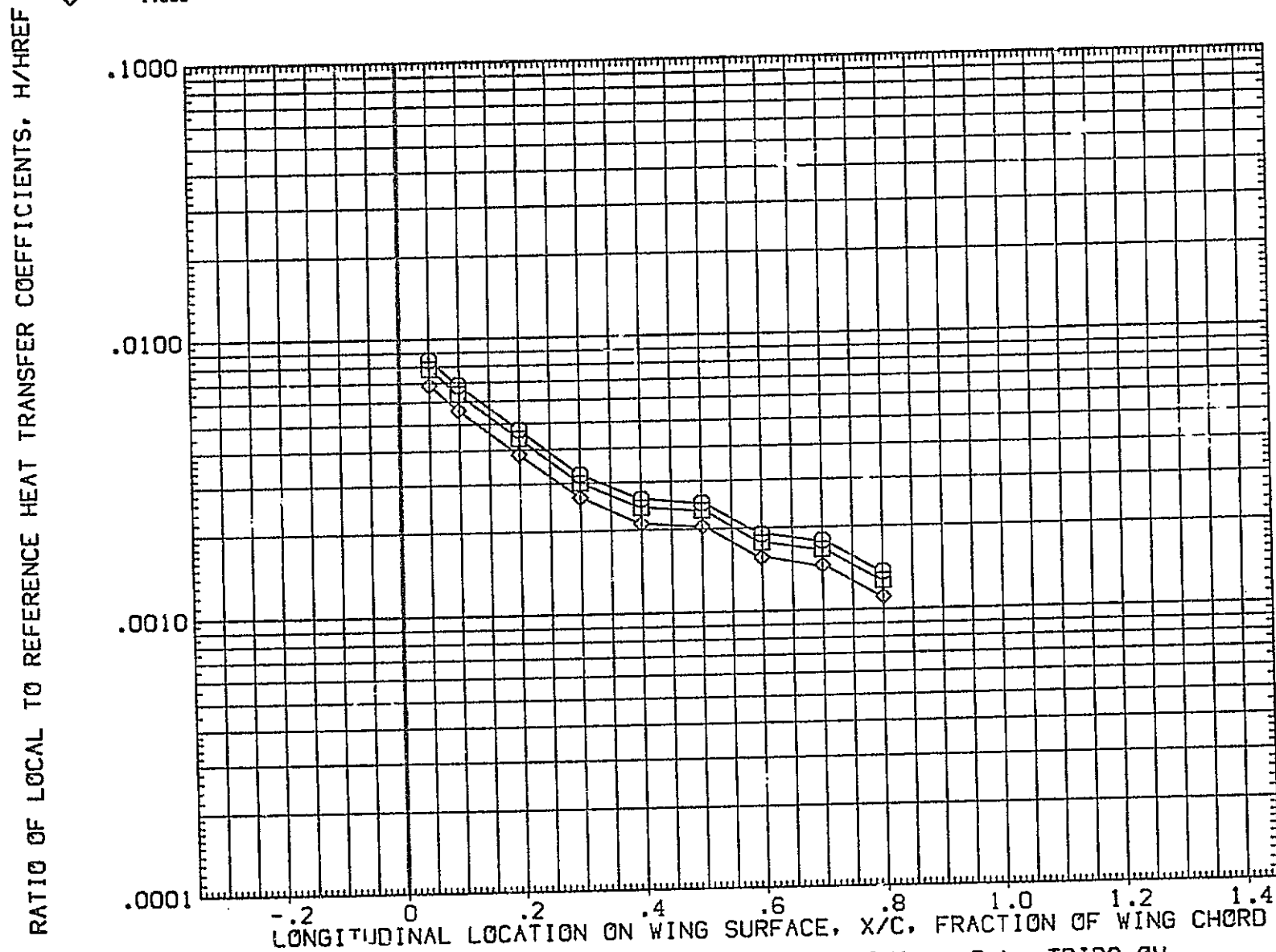


FIG 9 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS ON

IH19 B22C7F5M4V7W111 T8 ORBITER LOWER WING

(RQEW04)

SYMBOL	HAW/HT	2Y/B	ALPHA
□	.850	.600	-5.000
◇	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BL TRIP	.030	DELTAH	.175
MACH	19.800		

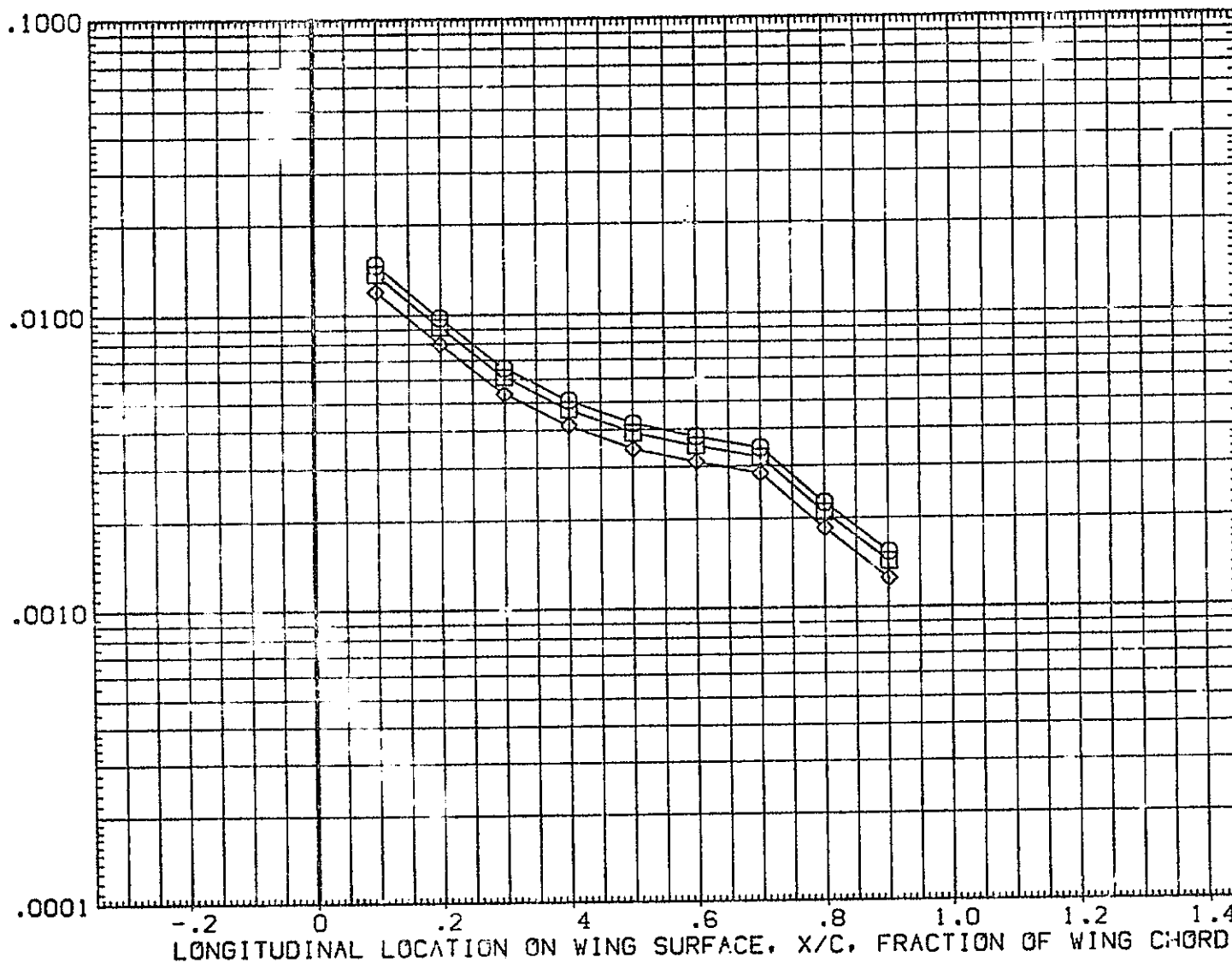
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $h/h_{REF}$ REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

FIG 9 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS ON

SYMBOL	HAW/HT	2Y/B	ALPHA
□	.850	.800	-5.000
◇	.900		
	1.000		

PARAMETRIC VALUES		
BETA	.000	RM/L .500
BLTRIP	.030	DELTAH .175
MACH	19.800	

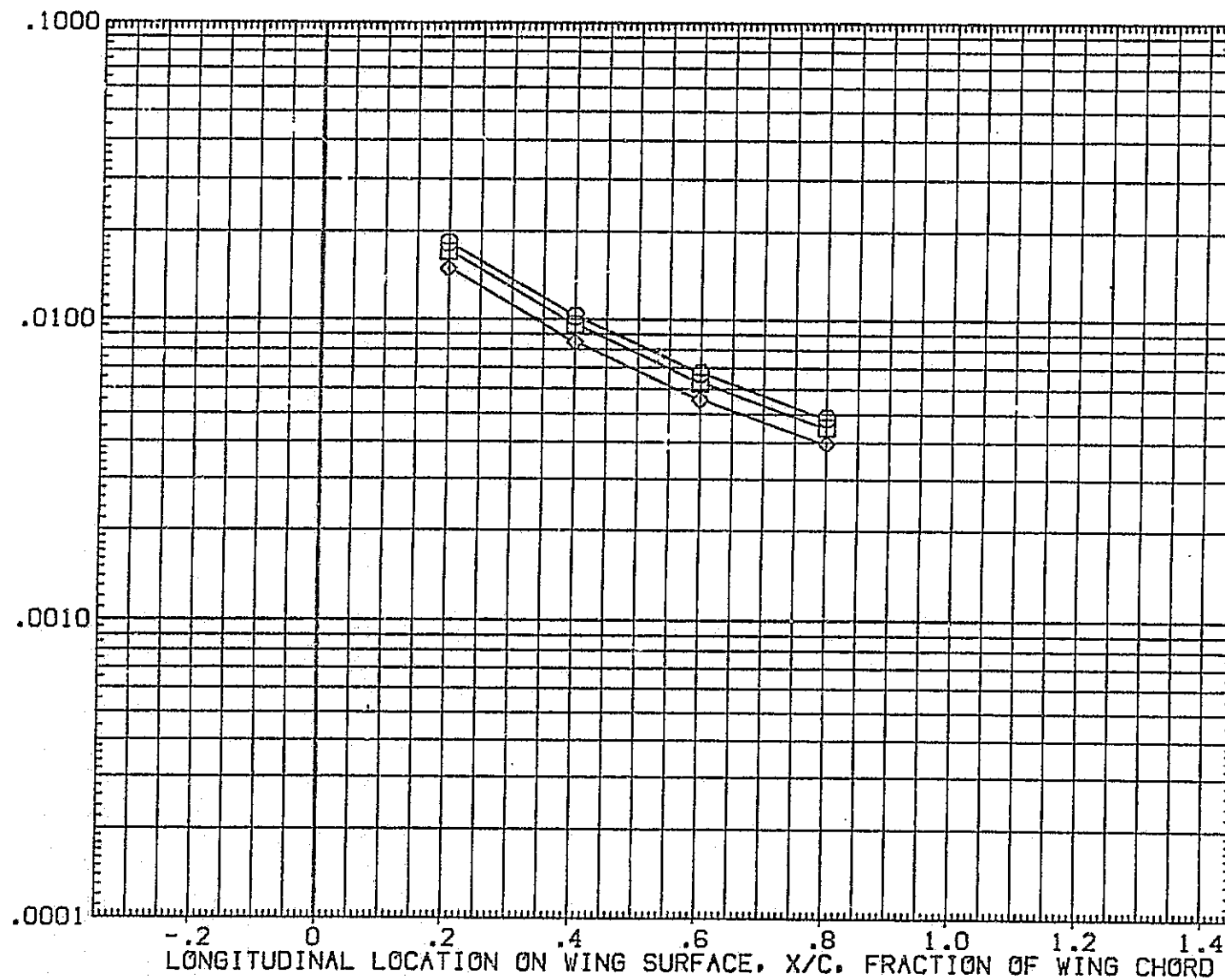
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 9 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS ON

C-5

# IH19 B22C7F5M4V7W111 T8 ORBITER LOWER WING

(RQEW04)

SYMBOL	HAW/HT	2Y/B	ALPHA
○	.850	.400	.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.030	DELTAH	.175
MACH	19.700		

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

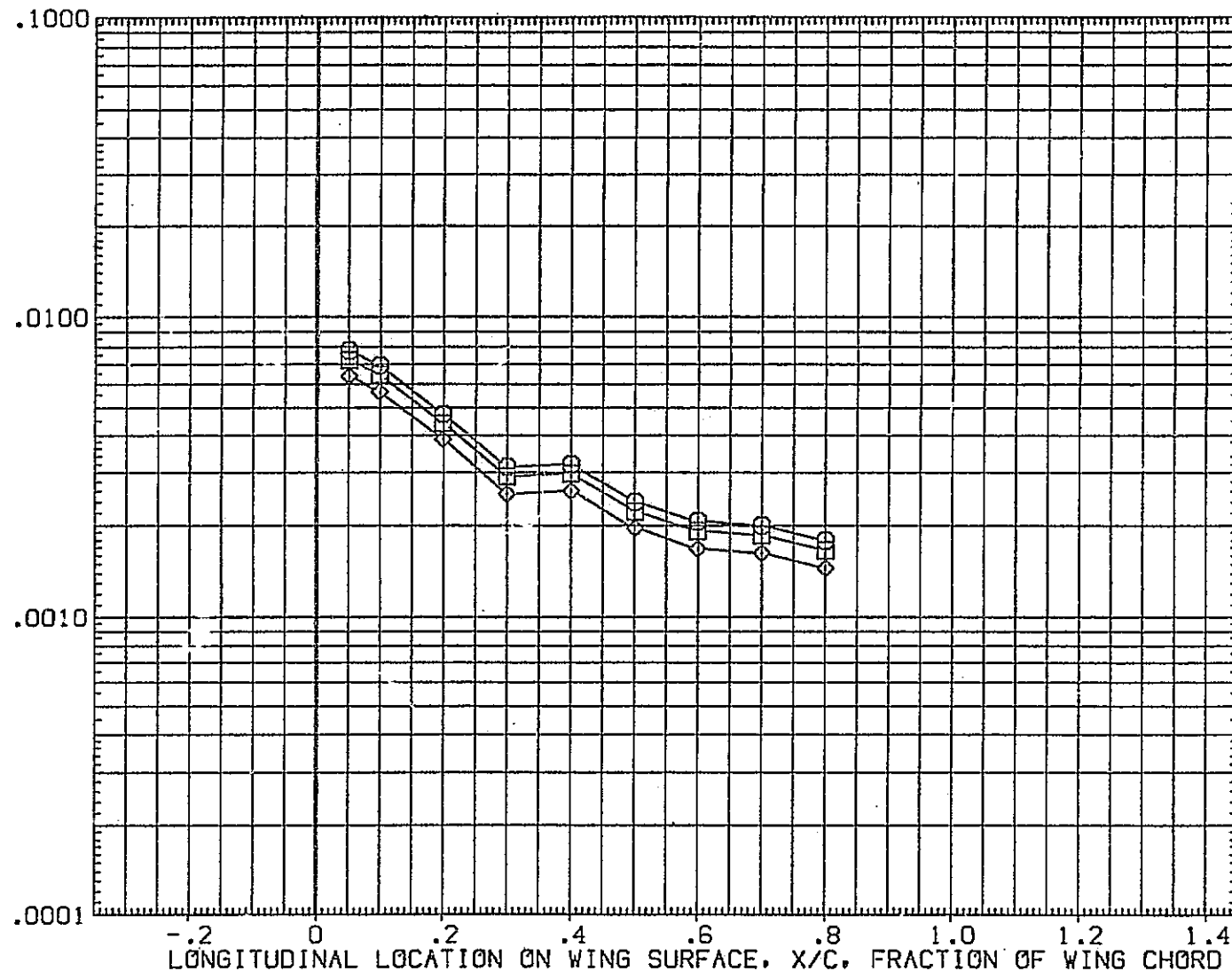


FIG 9 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS ON

SYMBOL	HAW/HT	2Y/B	ALPHA
○	.850	.600	.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	DELTAH .175
MACH	19.800	

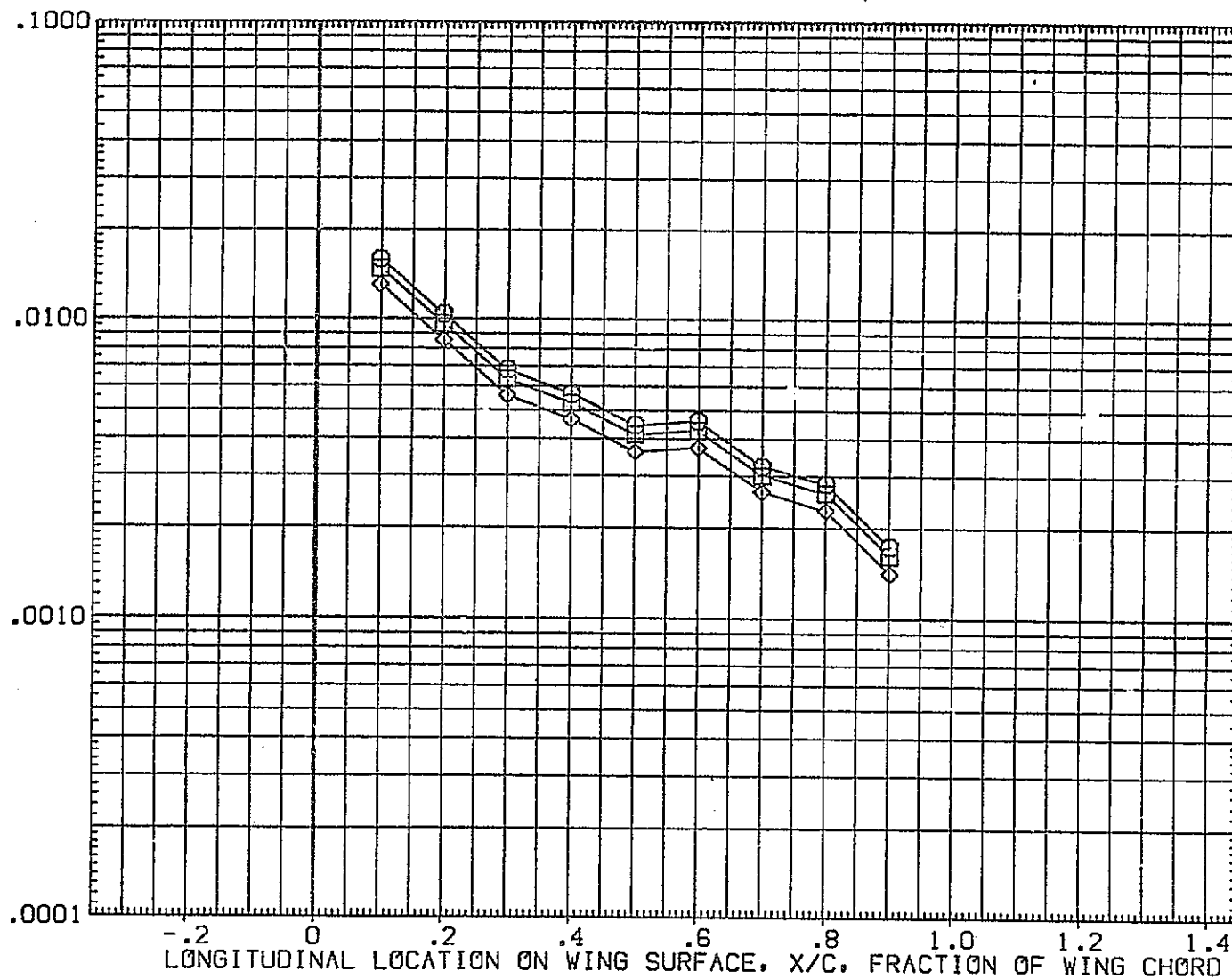
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 9 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS ON

SYMBOL	HAW/HT	2Y/B	ALPHA
◇	.850	.800	.000
□	.900		
□	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.030	DELTA	.175
MACH	19.800		

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

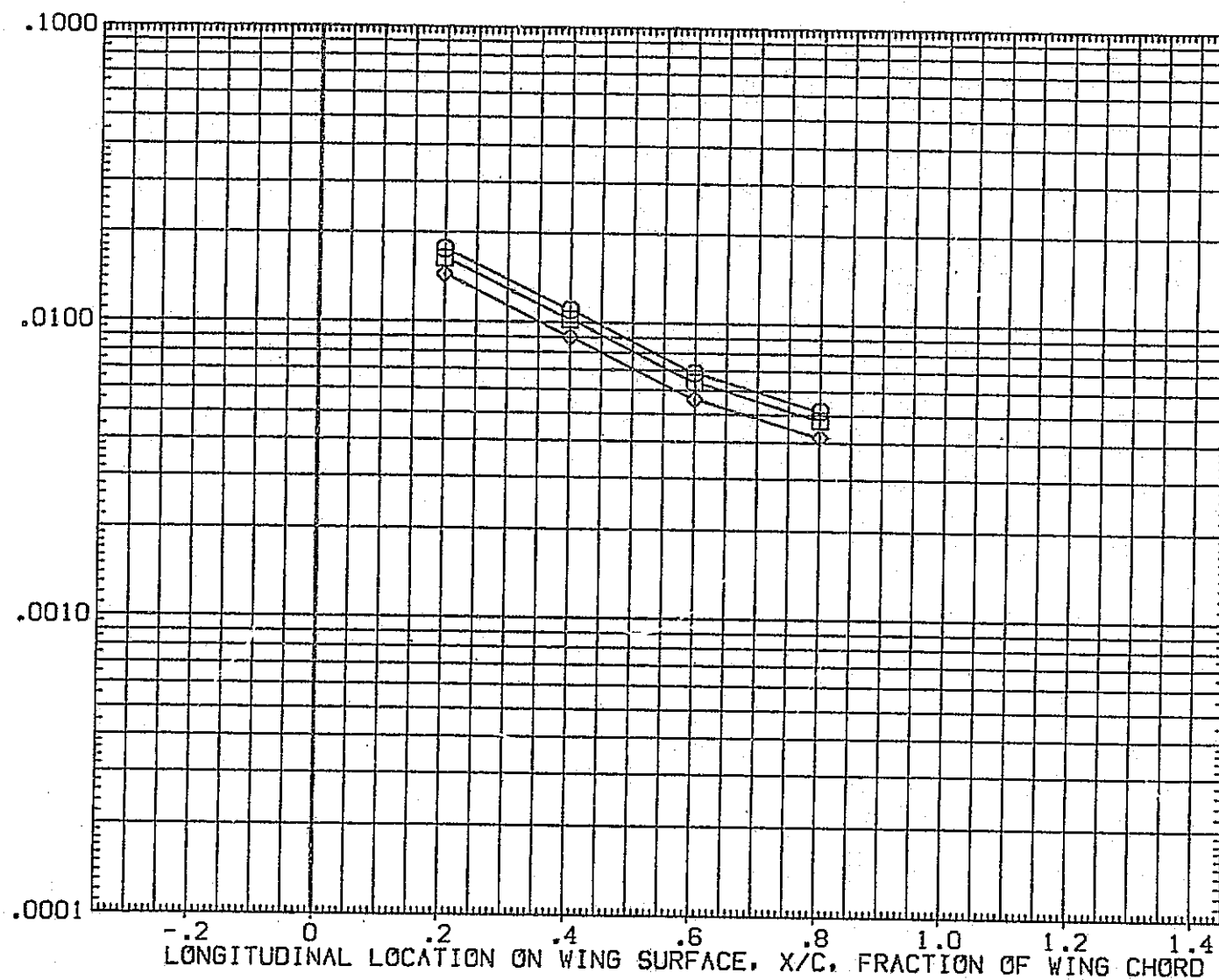


FIG 9 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS ON

SYMBOL	HAW/HT	2Y/B	ALPHA
○	.850	.400	5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.030	DELTAH	.175
MACH	19.800		

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

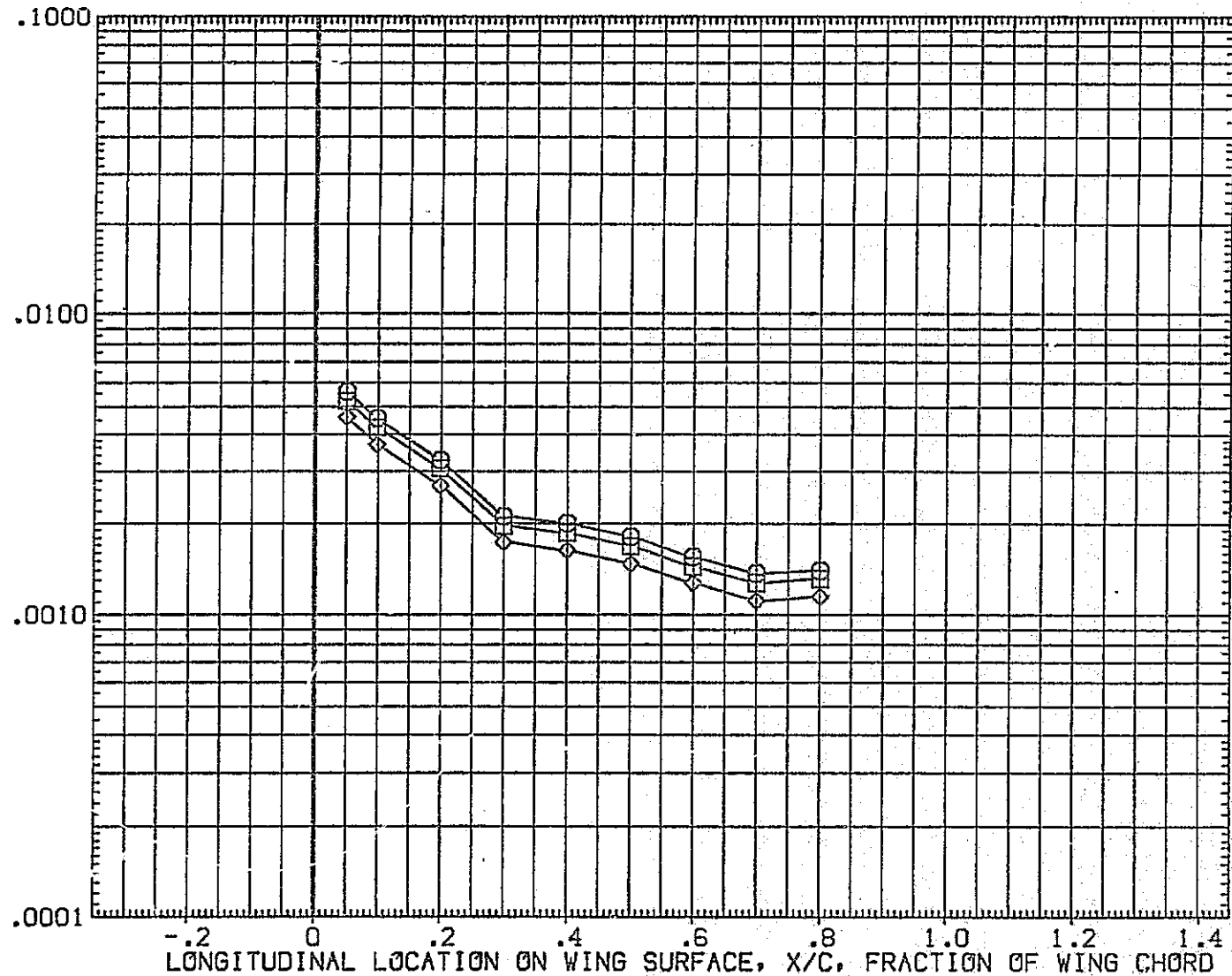


FIG 9 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS ON

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

IH19 B22C7F5M4V7W111 T8 ORBITER LOWER WING

(RQEW04)

SYMBOL	HAW/HT	2Y/B	ALPHA
○	.850	.600	5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	DELTAH .175
MACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

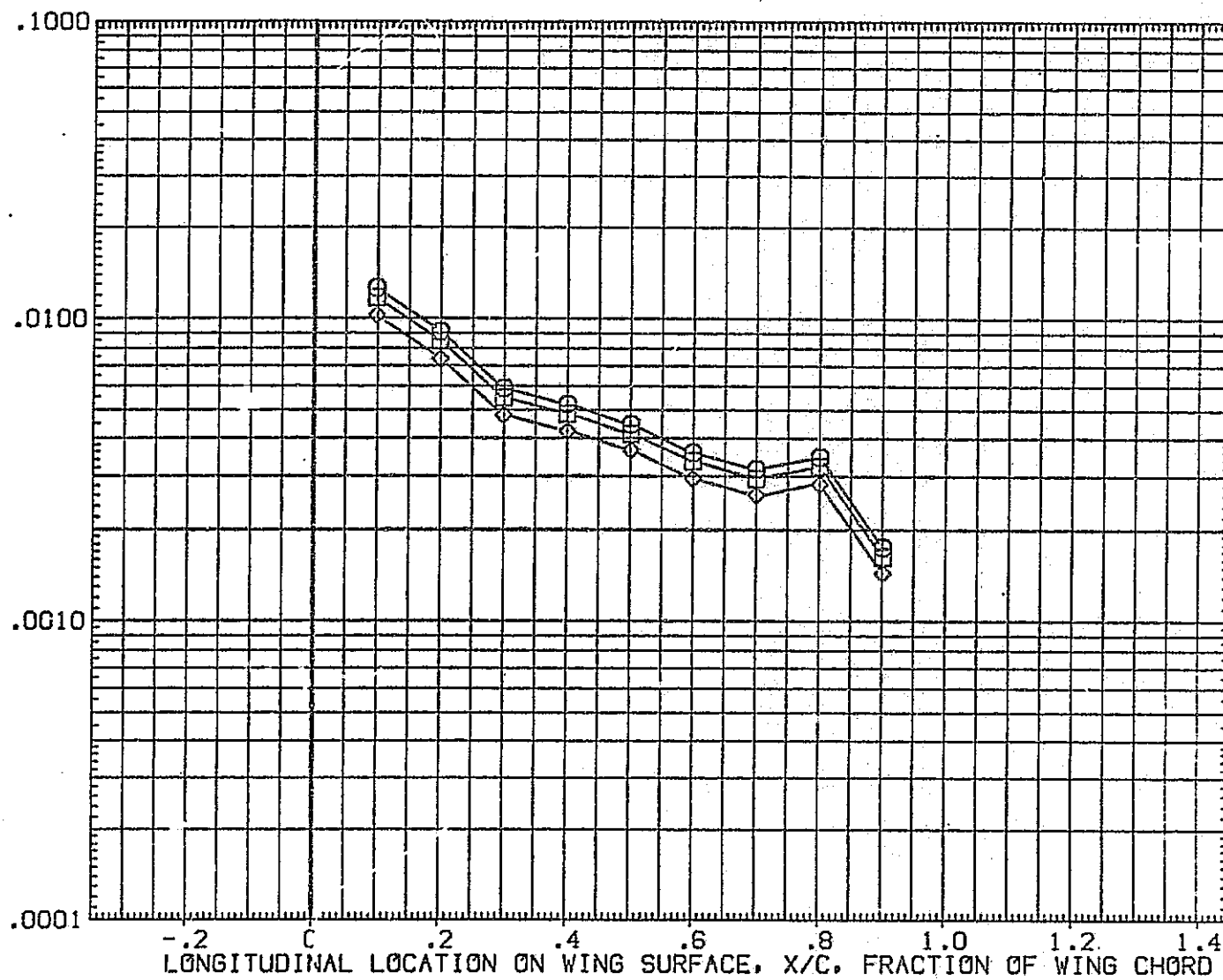


FIG 9 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS ON



SYMBOL	HAW/HT	2Y/B	ALPHA
◇	.850	.800	5.000
□	.900		
○	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.030	DELTAH	.175
MACH	19.800		

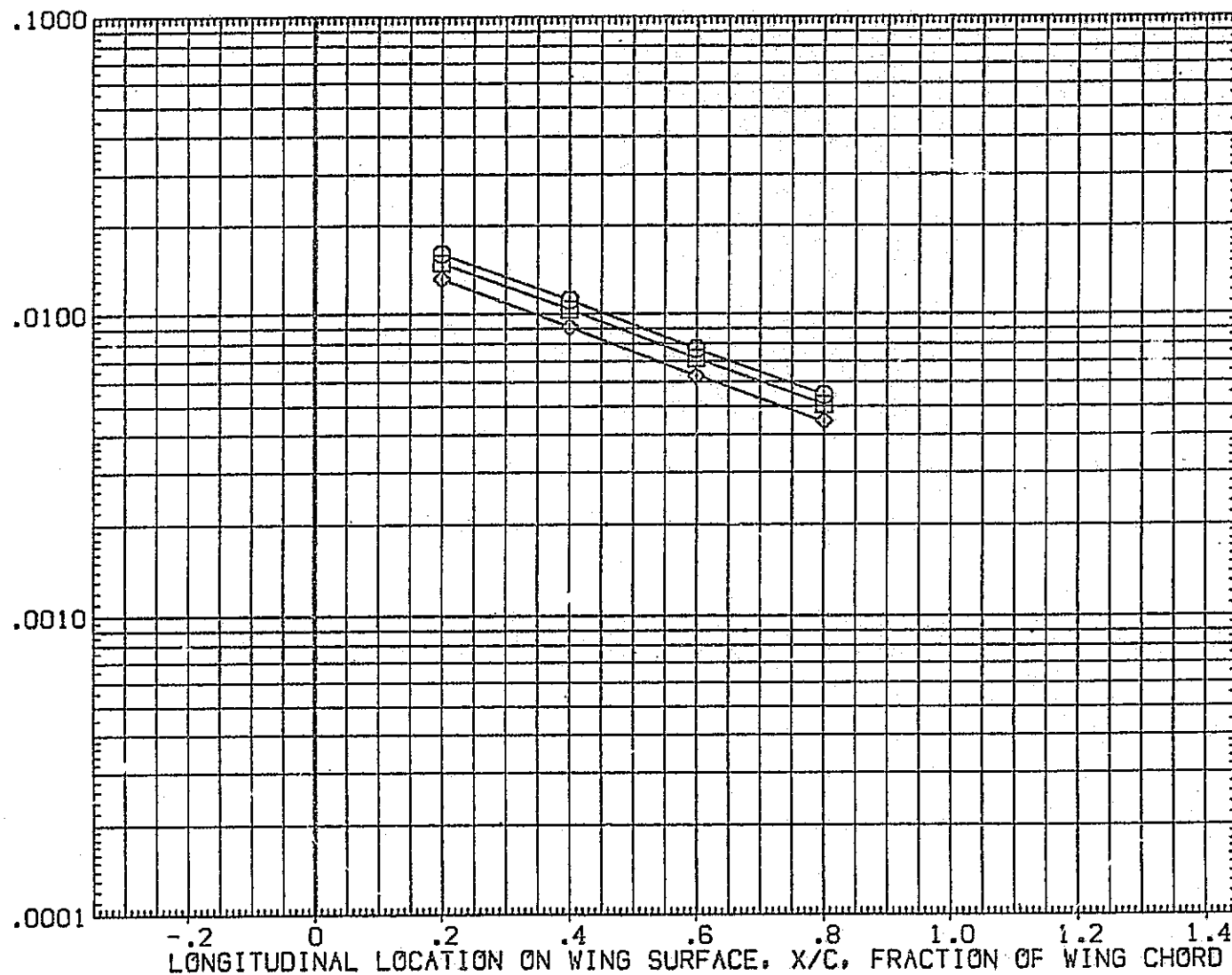
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 9 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS ON

IH19 B22C7F5M4V7W111 T8 ORBITER LOWER WING

(RQEW04)

SYMBOL	HAW/HT	2Y/B	ALPHA
◇	.850	.400	10.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	DELTAH .175
MACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

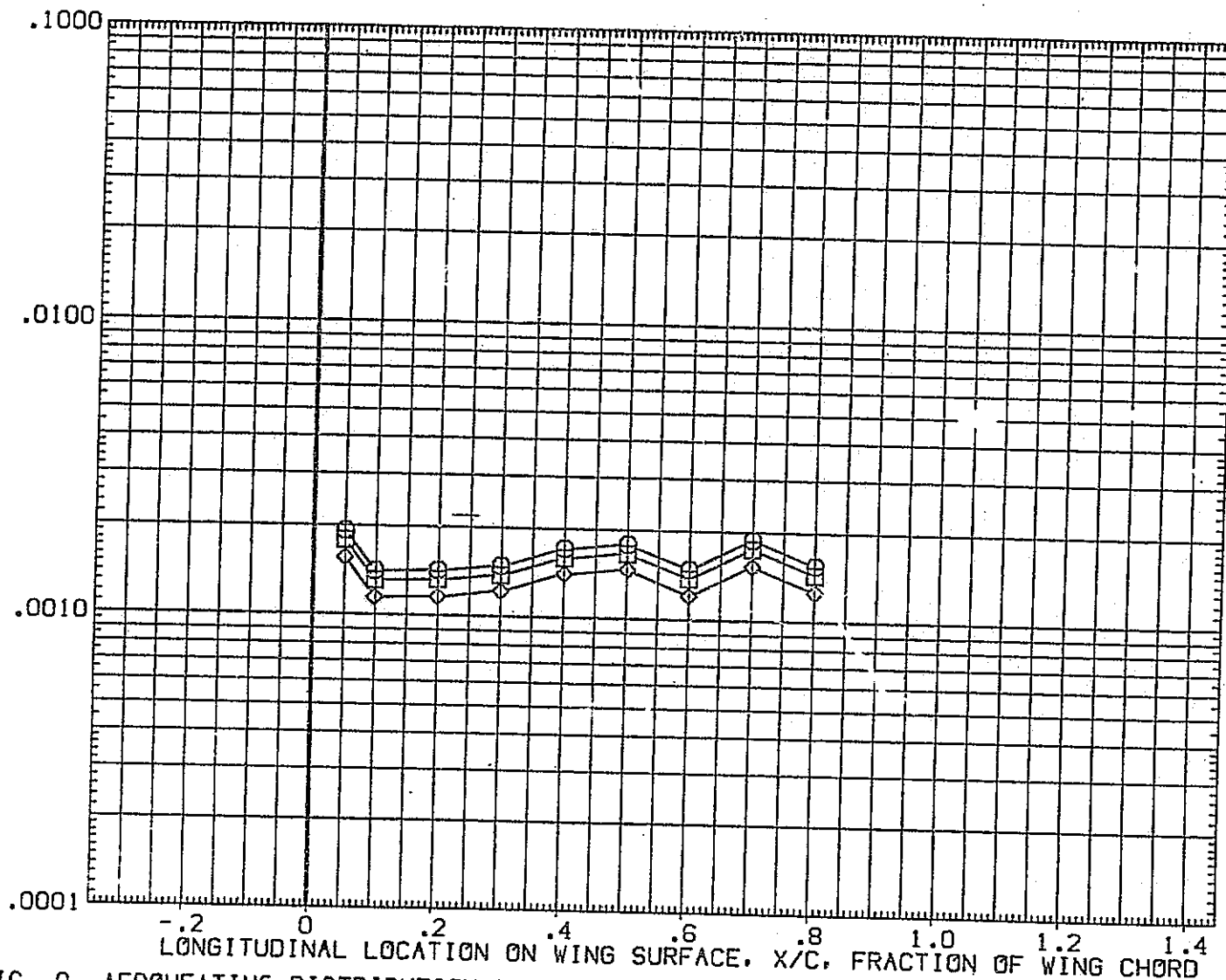


FIG 9 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS ON

SYMBOL	HAW/HT	2Y/B	ALPHA
□	.850	.600	10.000
◇	.900		
	1.000		

PARAMETRIC VALUES		
SE1A	.000	RN/L .500
BLTRIP	.030	DELTAH .175
HACH	19.800	

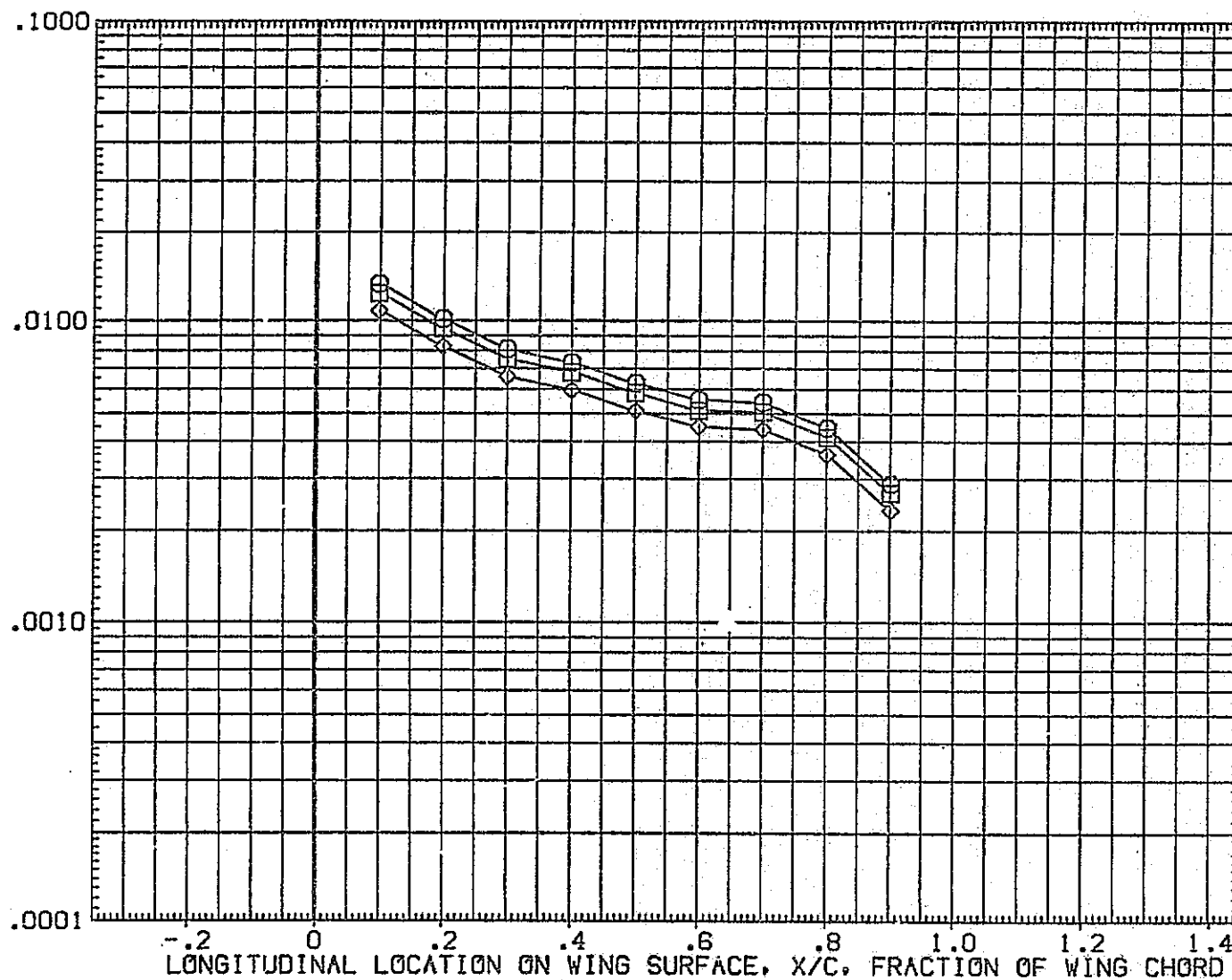
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 9 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS ON

1H19 B22C7F5M4V7W111 T8 ORBITER LOWER WING

(RQEW04)

SYMBOL	HAW/HT	2Y/B	ALPHA
○	.850	.800	10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	DELTAH .175
MACH	19.80J	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

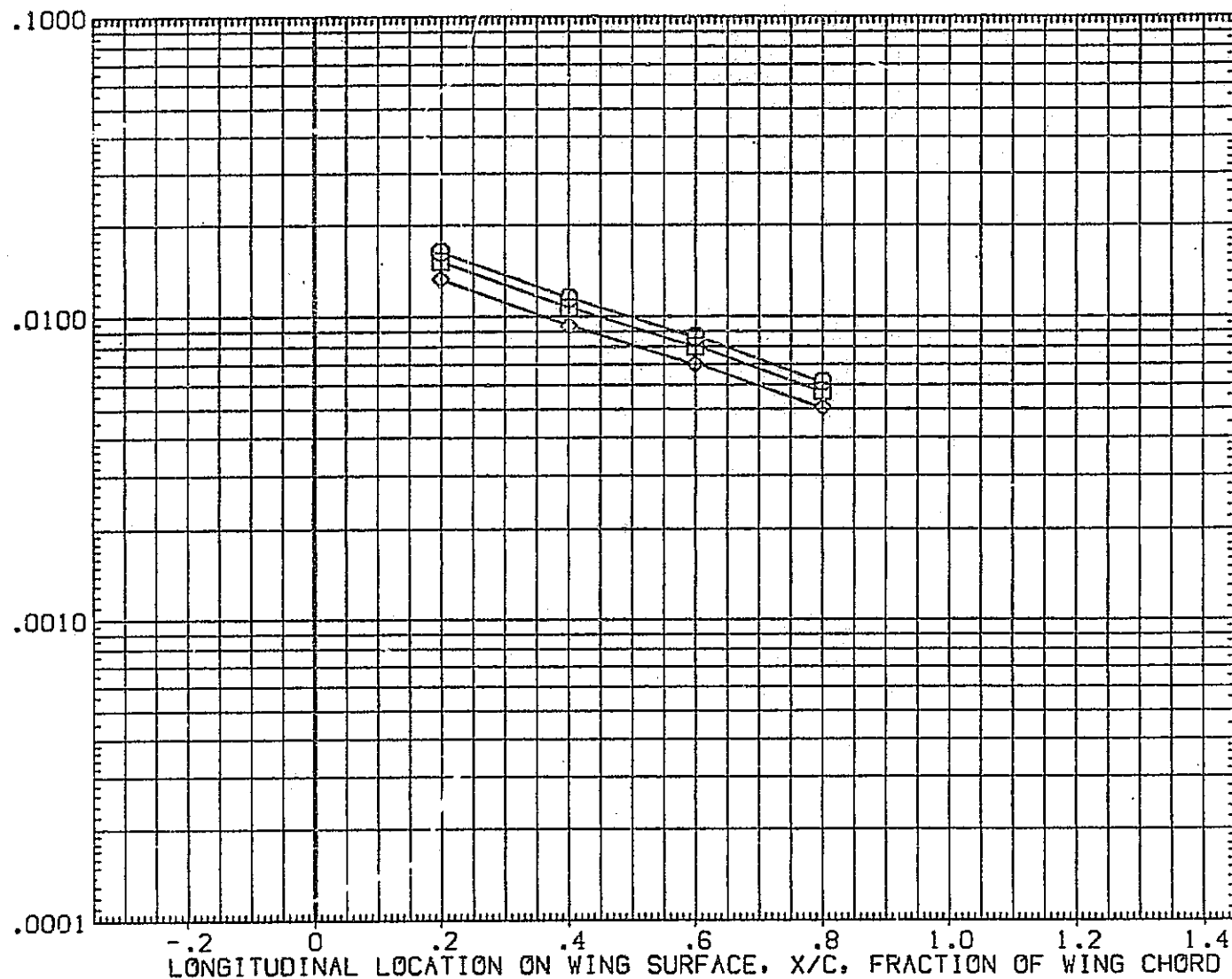


FIG 9 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS ON

## IH19 RATIO (ORB+TANK)/ORB ORBITER LOWER WING

(DGEW04)

SYMBOL	HAW/HT	2Y/B	ALPHA
○	.850	.400	-10.000
□	.900		
◇	1.000		

BETA	HACH
.000	19.800

PARAMETRIC VALUES

RN/L

.500

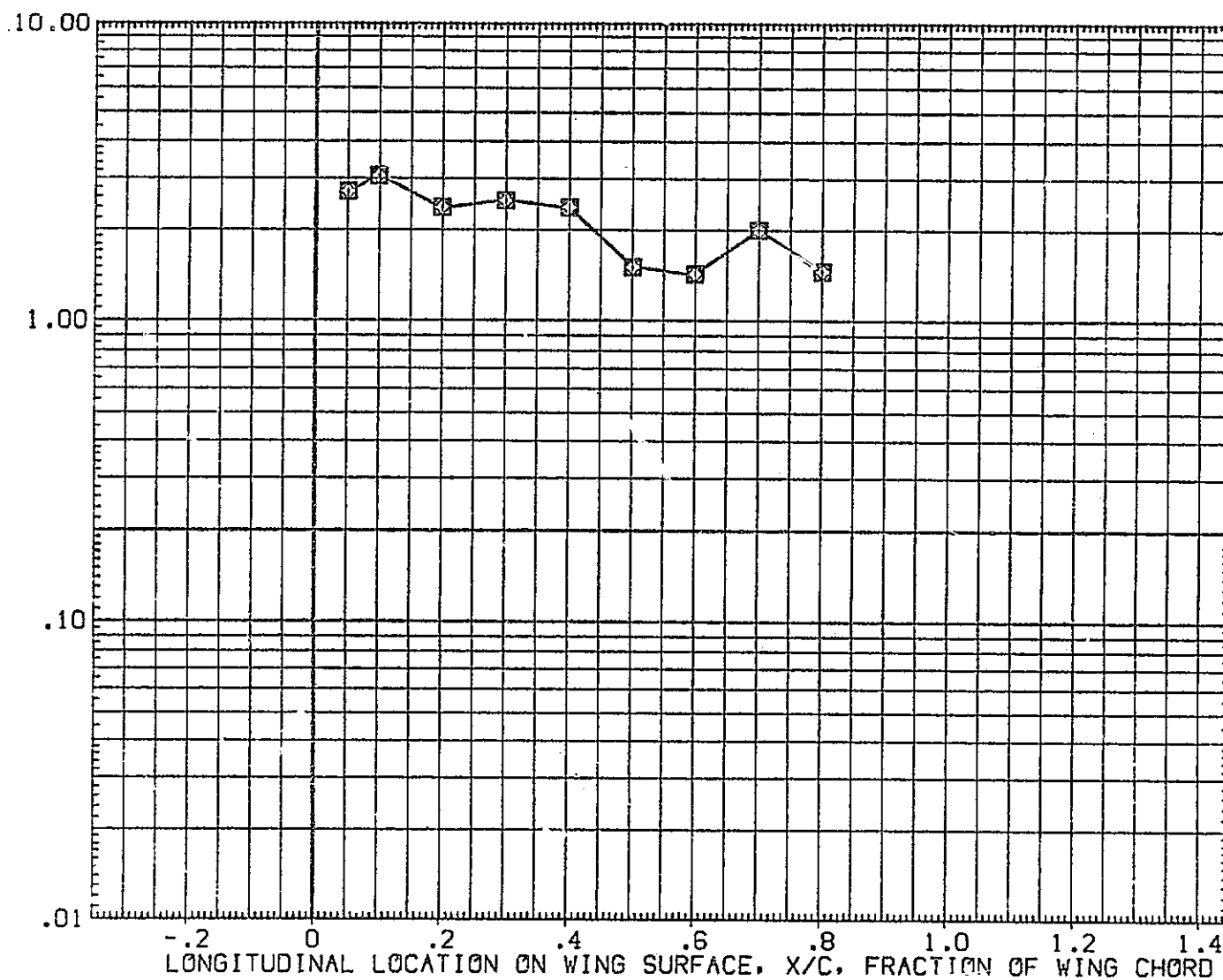
RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $H_i/H_u$ 

FIG 9 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS ON

# IH19 RATIO (ORB+TANK)/ORB ORBITER LOWER WING

(DQEW04)

SYMBOL	HAW/HT	2Y/B	ALPHA
○	.850	.600	-10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L
MACH	19.800	.500

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF., HI/HU

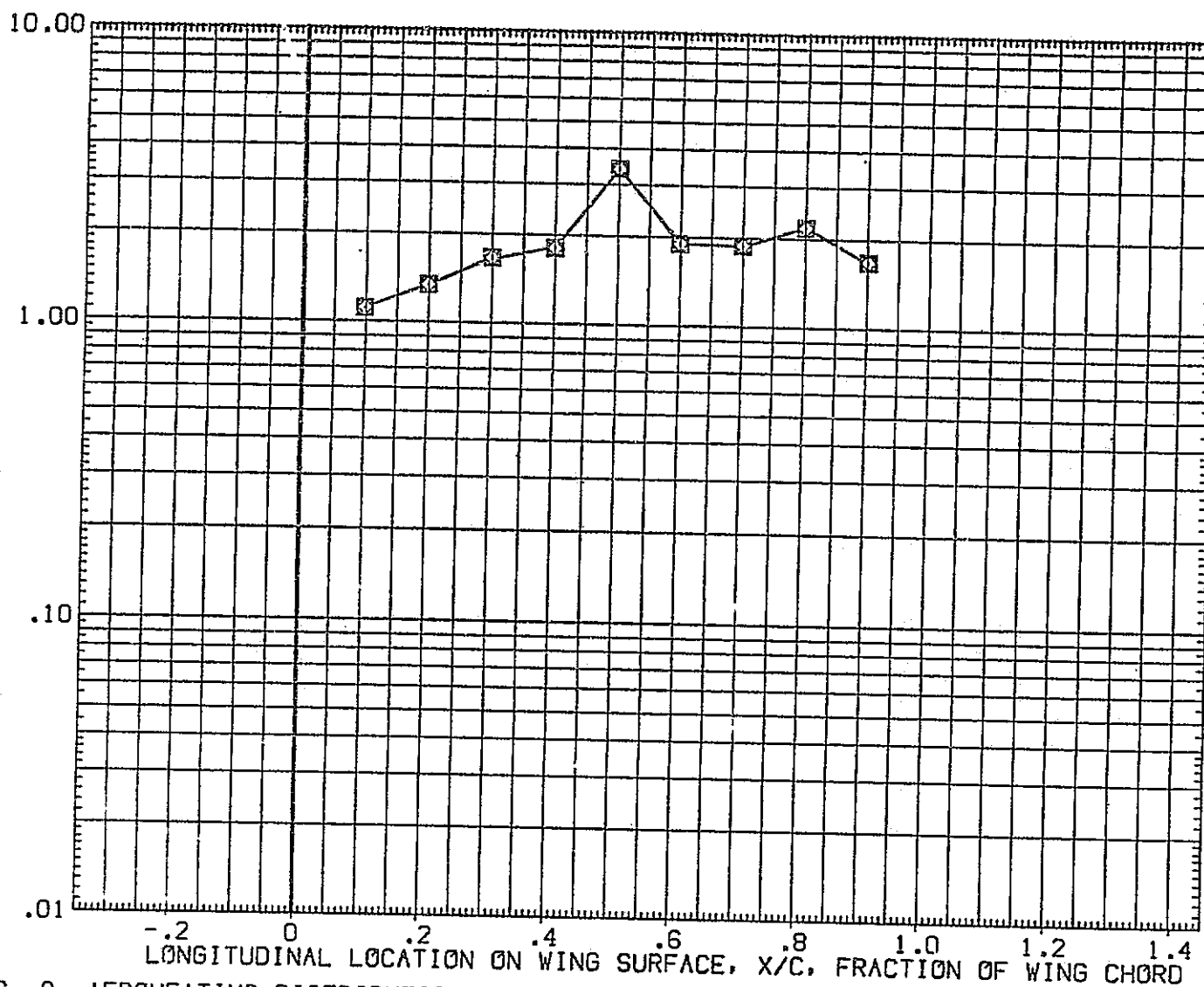


FIG 9 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS ON

SYMBOL	HAW/HT	2Y/B	ALPHA
○	.850	.800	-10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L
MACH	19.800	.500

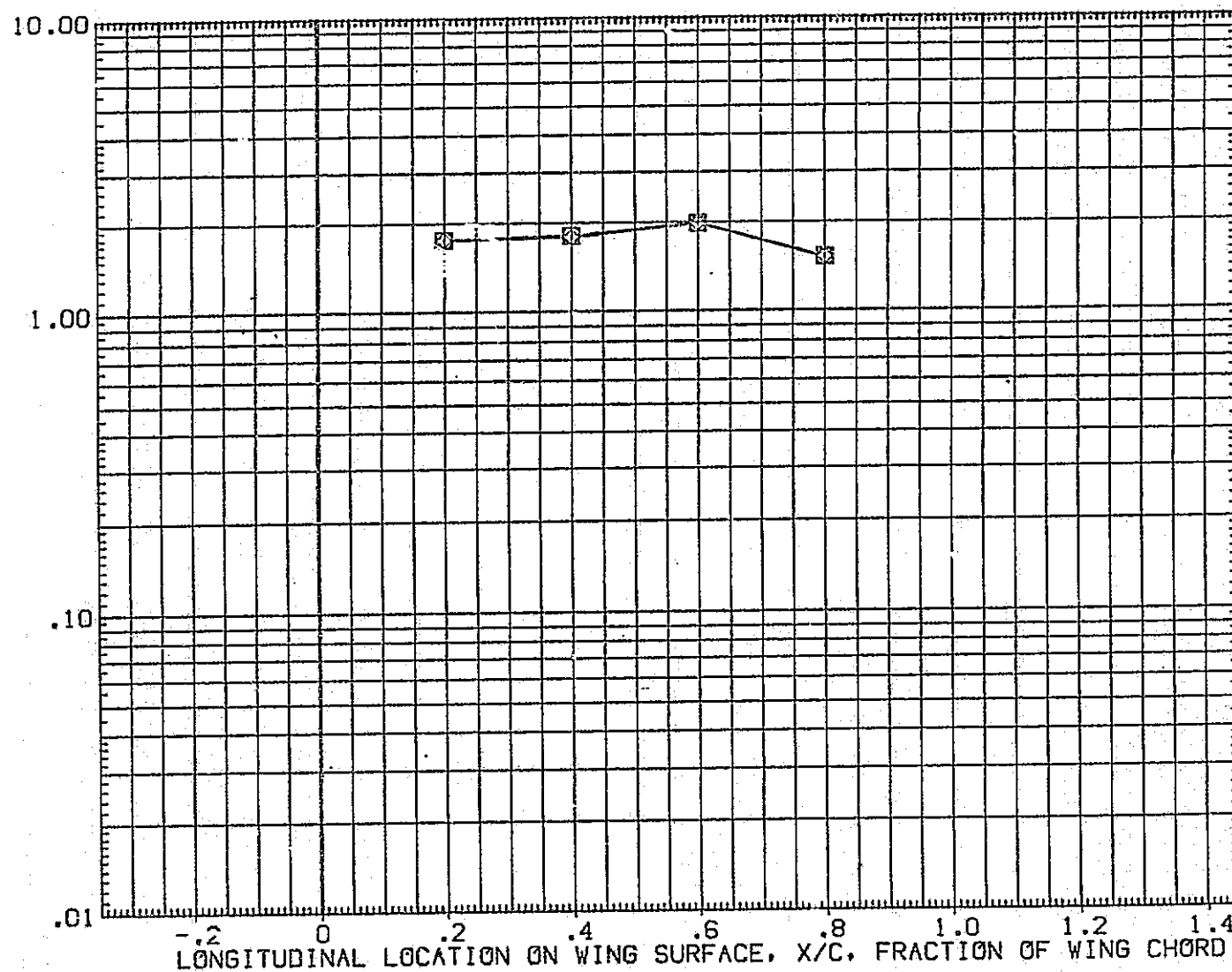
RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $H_1/H_U$ 

FIG 9 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS ON

## IH19 RATIO (ORB+TANK)/ORB ORBITER LOWER WING

(DQEW04)

SYMBOL	HAW/HT	2Y/B	ALPHA
○	.850	.400	-5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L
MACH	19.800	.500

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF., HI/HU

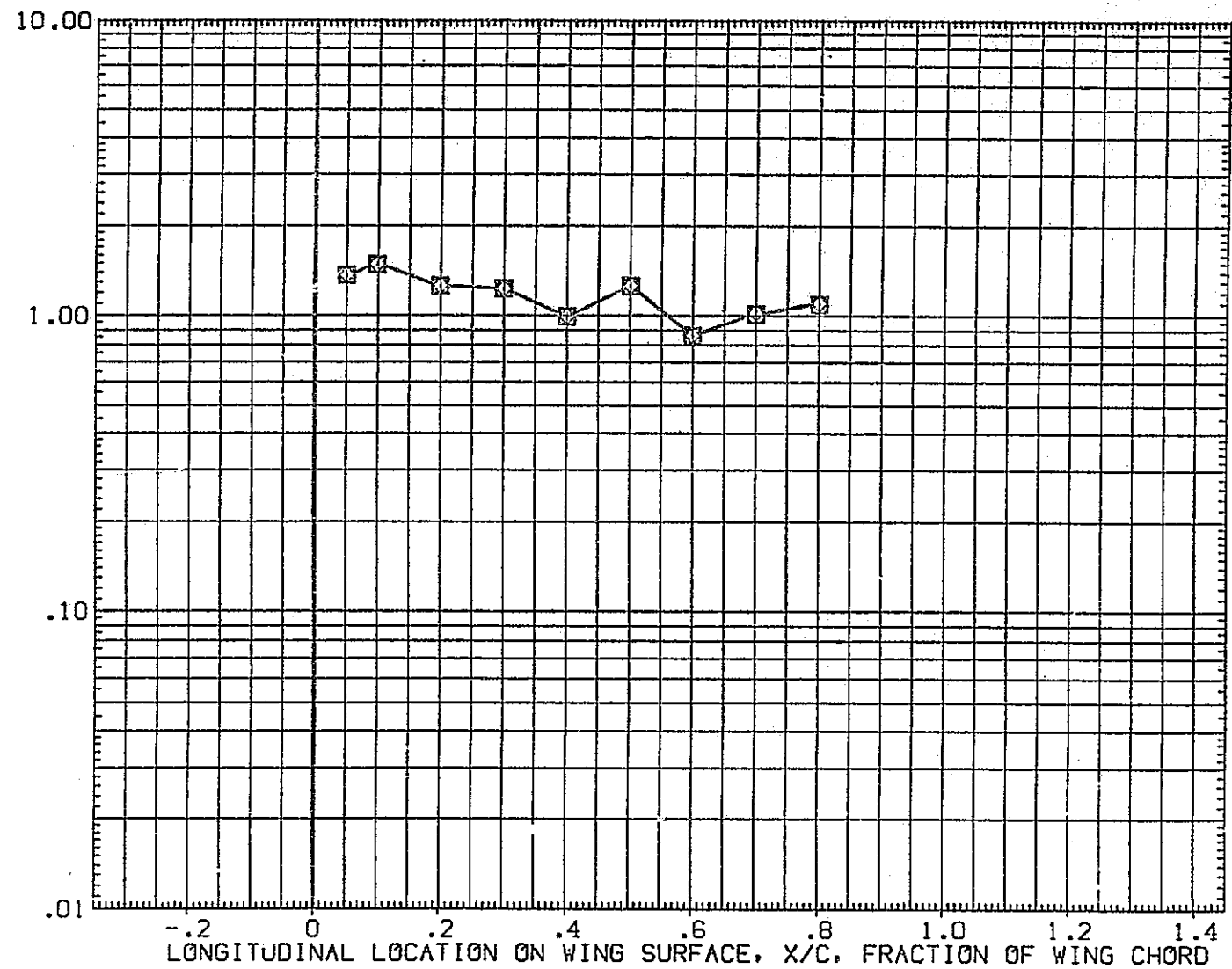


FIG 9 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS ON



## IH19 RATIO (ORB+TANK)/ORB ORBITER LOWER WING

(DQEW04)

SYMBOL

HAW/HT

2Y/B

ALPHA

BETA  
MACH

PARAMETRIC VALUES

.000 RN/L

.500

◇ □ ○

.850  
.900  
1.000

.600

-5.000

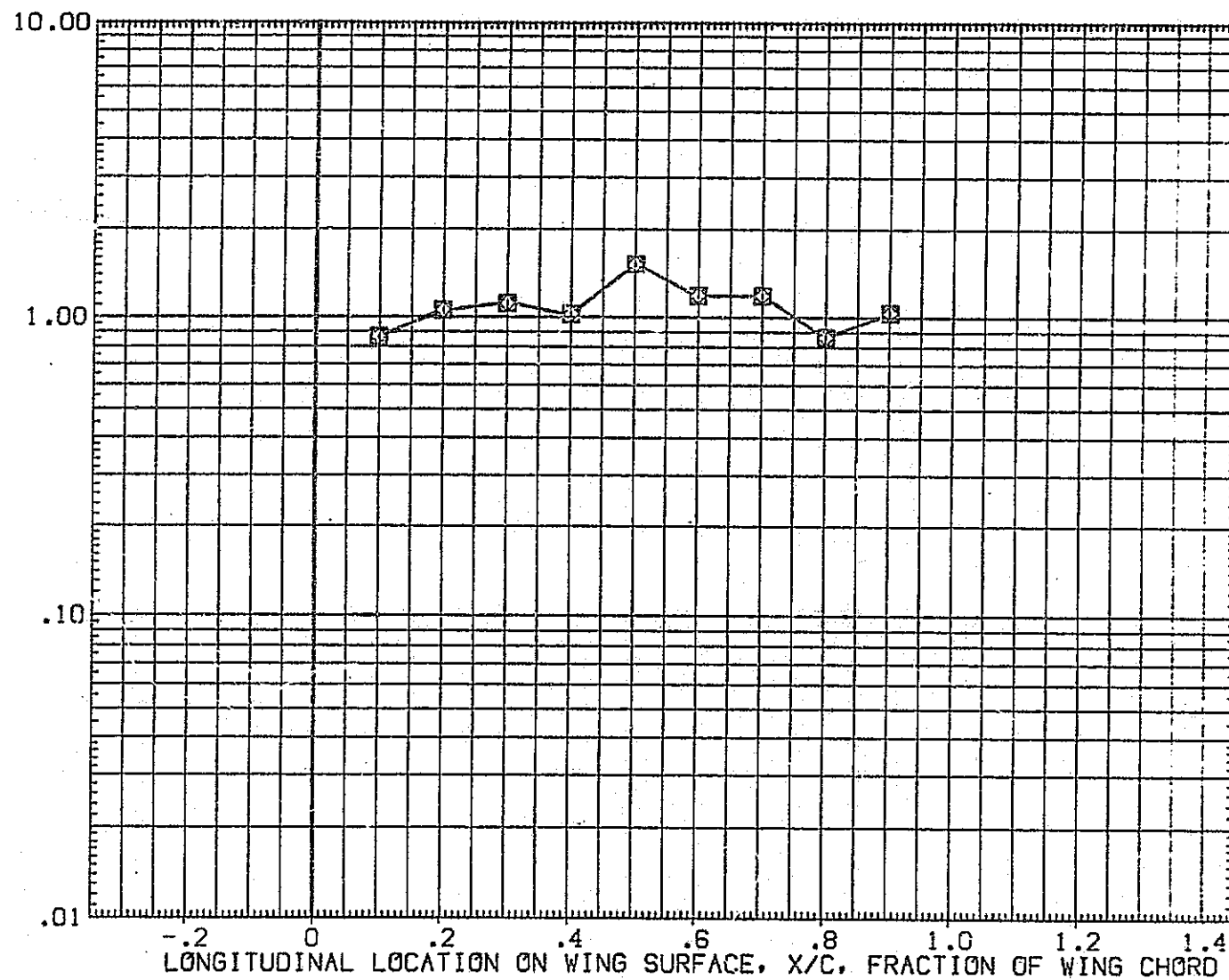
RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $H_i/H_u$ 

FIG 9 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS ON

## IH19 RATIO (ORB+TANK)/ORB ORBITER LOWER WING

(DQEW04)

SYMBOL

HAW/HT

2Y/B

ALPHA

BETA  
MACH

PARAMETRIC VALUES

.000 RN/L

.500

◇	.850
□	.900
○	1.000

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF., HI/HU

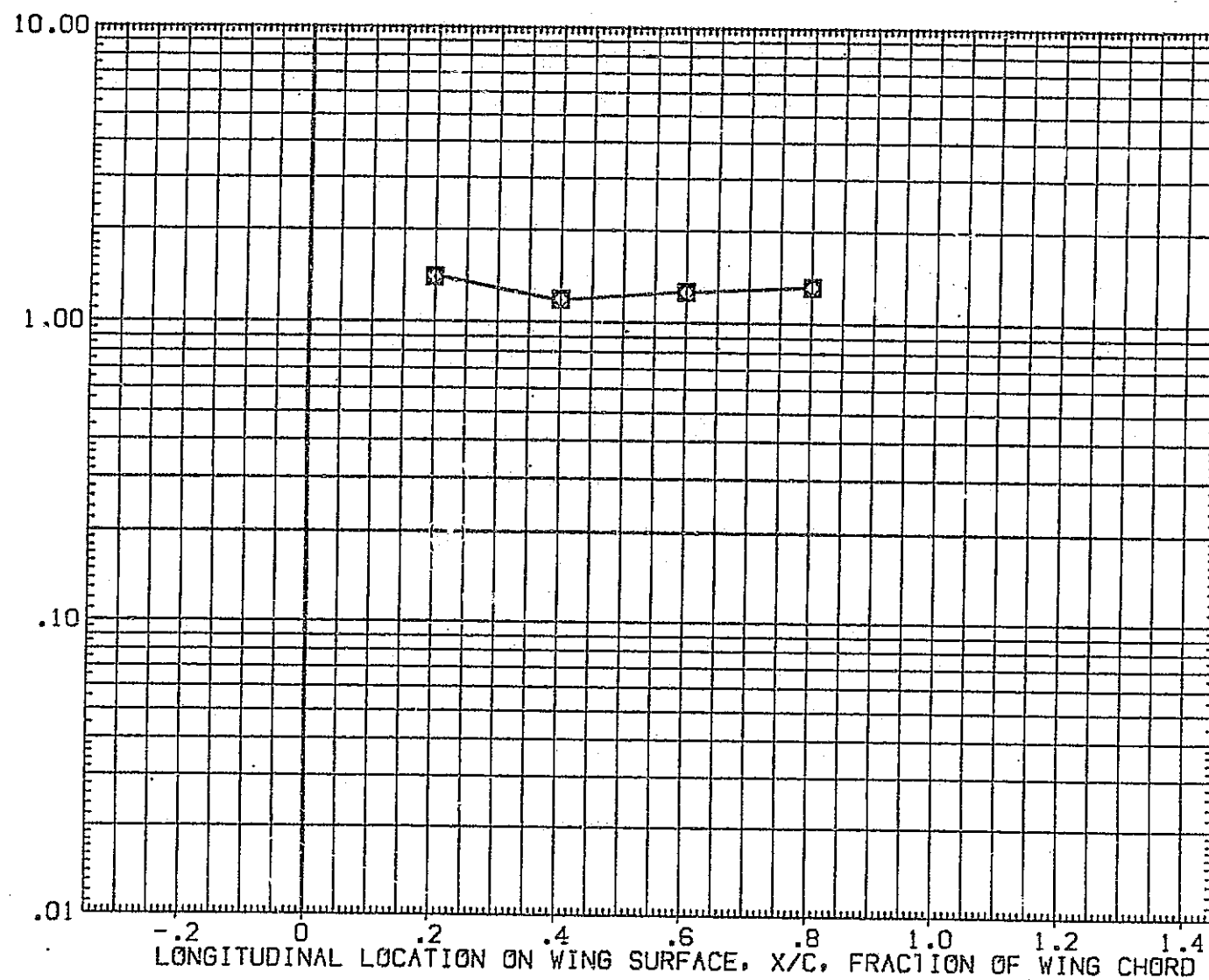


FIG 9 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS ON

SYMBOL	HAW/HT	2Y/B	ALPHA
◇	.850	.400	.000
□	.900		
○	1.000		

BETA  
MACH

PARAMETRIC VALUES

.000 RN/L

.500

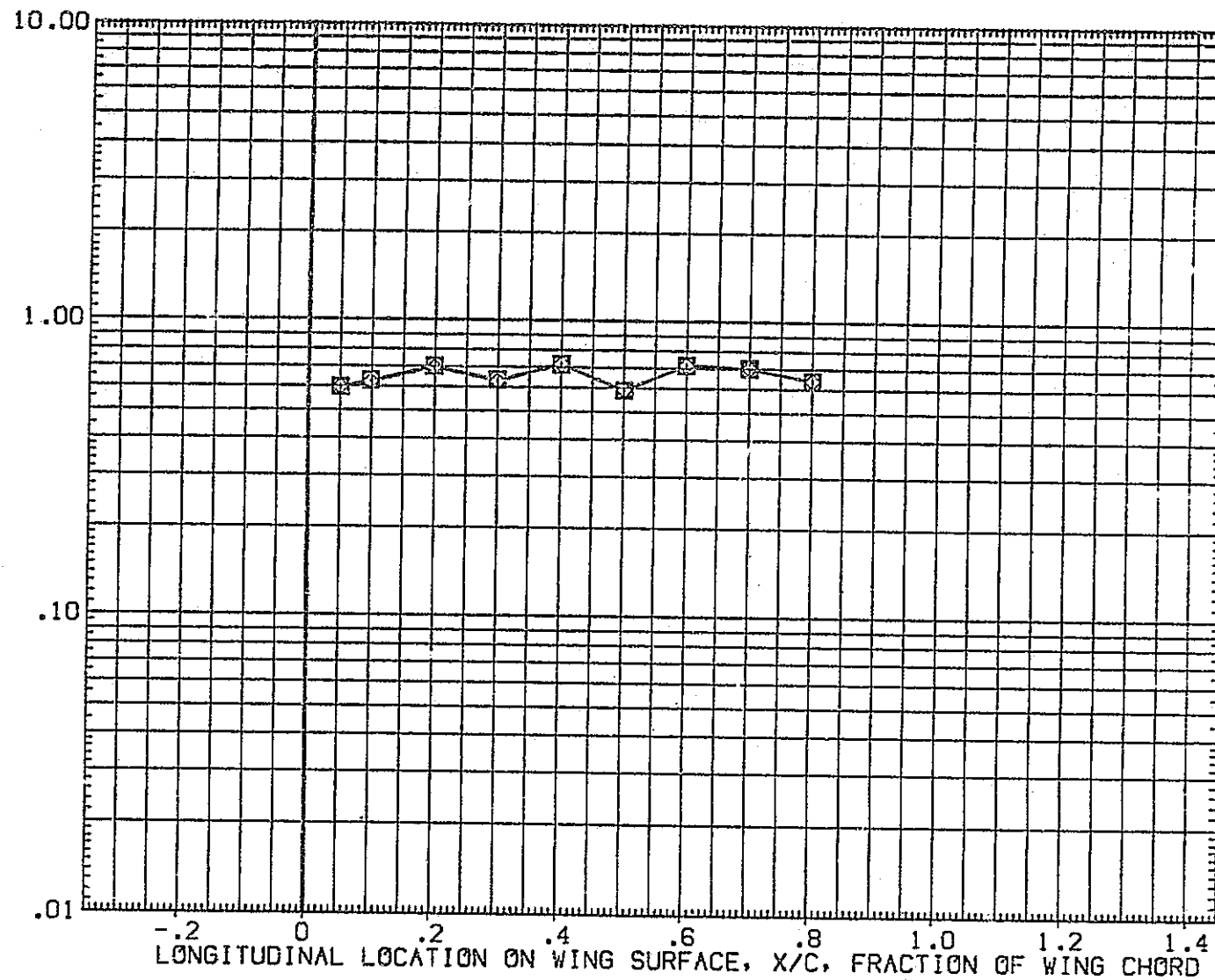
RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $H_i/H_u$ 

FIG 9 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS ON

# IH19 RATIO (ORB+TANK)/ORB ORBITER LOWER WING

(DGEW04)

SYMBOL HAW/HT 2Y/B ALPHA  
 ◇ □ ○ .850 .600 .000  
 .900  
 1.000

BETA MACH PARAMETRIC VALUES  
 .000 RN/L .500  
 19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $H_i/H_u$

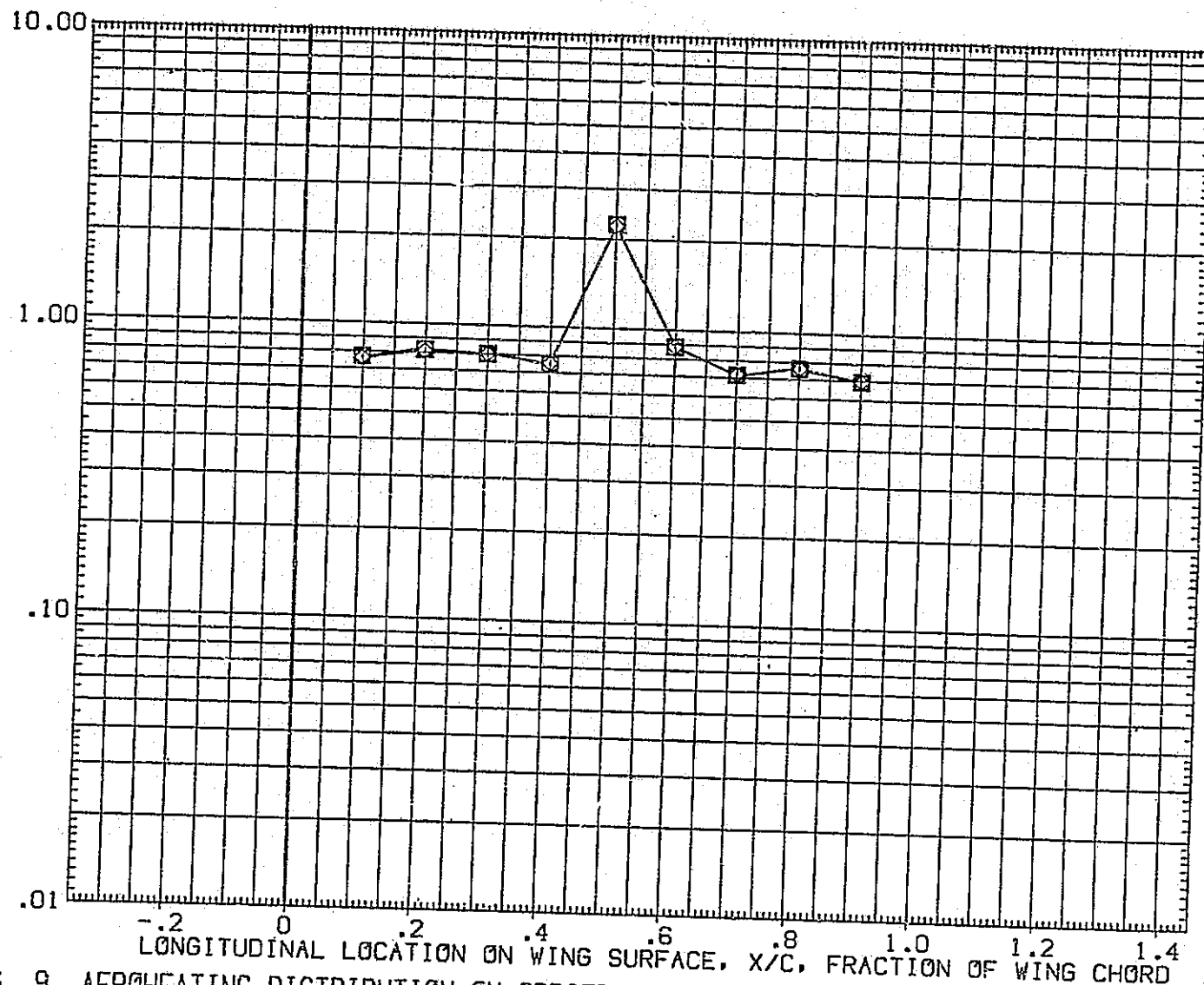


FIG 9 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS ON

SYMBOL	HAW/HT	2Y/B	ALPHA
◇	.850	.800	.000
□	.900		
◇	1.000		

BETA	HACH
.000	19.800

PARAMETRIC VALUES	
RN/L	.500

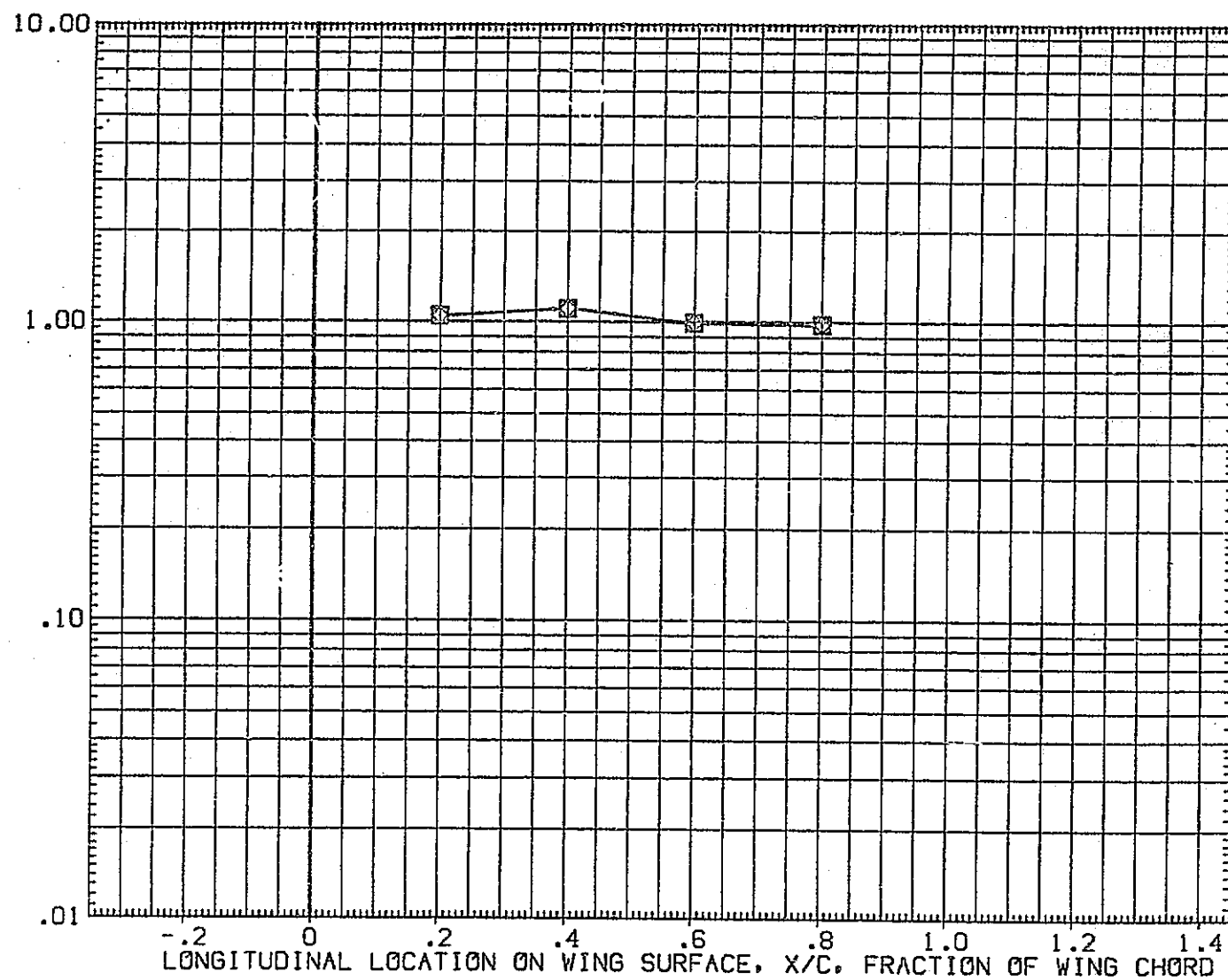
RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $H_1/H_U$ 

FIG 9 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS ON

# IH19 RATIO (ORB+TANK)/ORB ORBITER LOWER WING

(DQEW04)

SYMBOL	HAW/HT	2Y/B	ALPHA
○	.850		
□	.900		
◇	1.000	.400	5.000

PARAMETRIC VALUES		
BETA	.000	RN/L
MACH	19.800	.500

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $H_i/H_u$

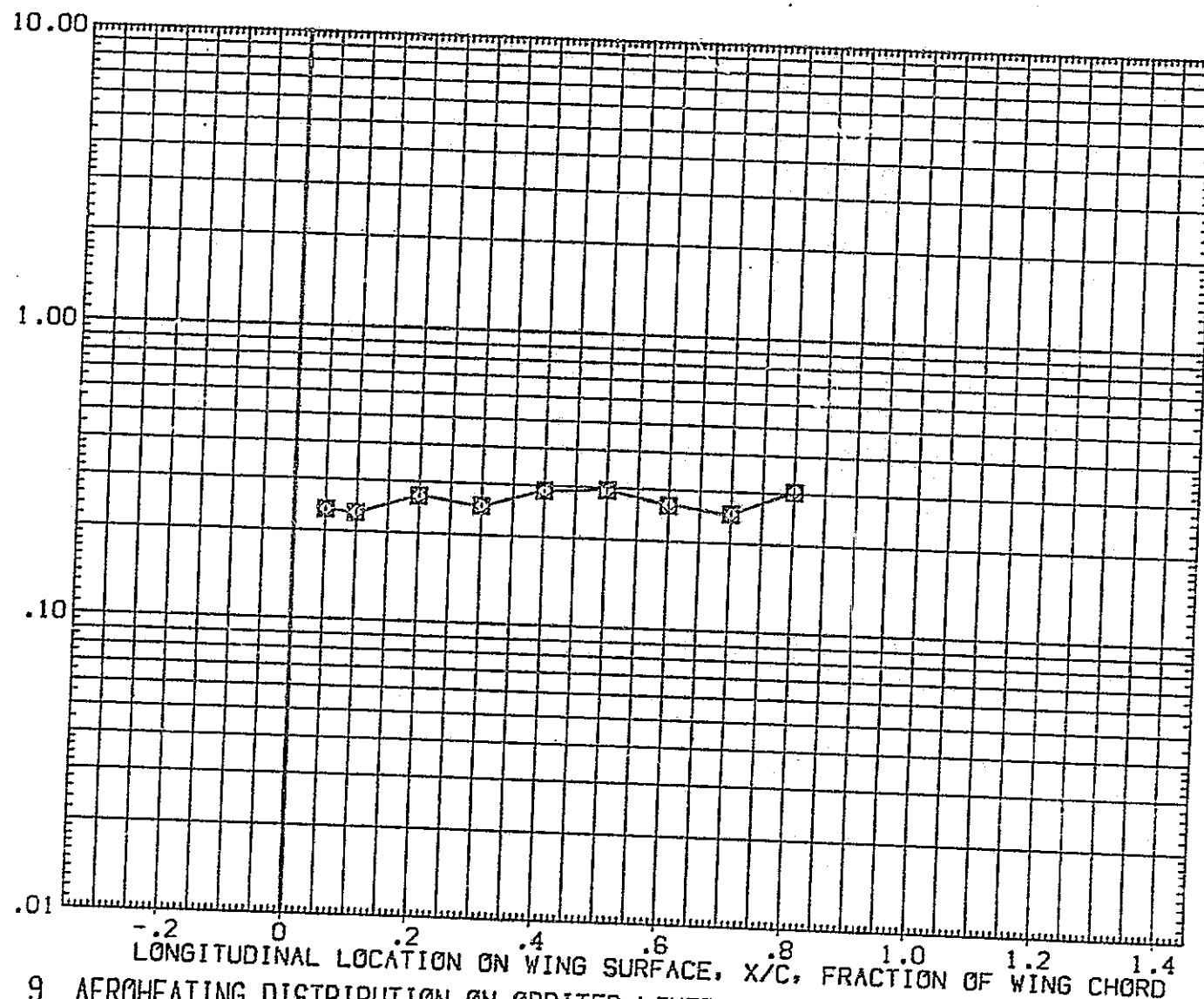


FIG 9 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS ON

SYMBOL

HAW/HT

2Y/B

ALPHA

BETA  
MACH

PARAMETRIC VALUES

.000 RN/L

.500

◇ □ □ □

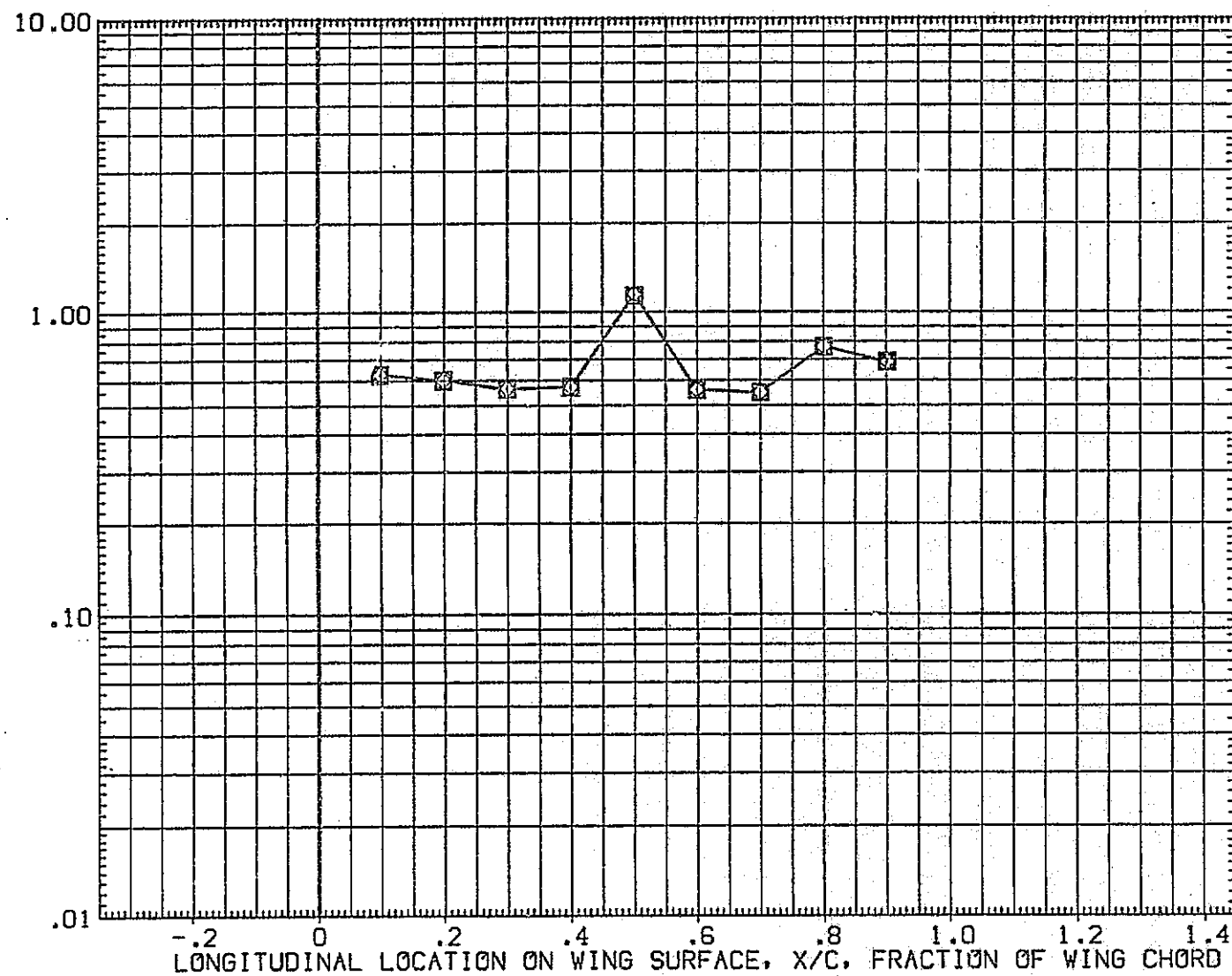
.850  
.900  
1.000.600  
5.000RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $H_i/H_u$ 

FIG 9 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS ON

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

# IH19 RATIO (ORB+TANK)/ORB ORBITER LOWER WING

(DQEW04)

SYMBOL	HAW/HT	2Y/B	ALPHA
◇	.850	.800	5.000
□	.900		
○	1.000		

BETA  
MACH

PARAMETRIC VALUES  
.000 RN/L  
19.800

.500

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $H_i/H_u$

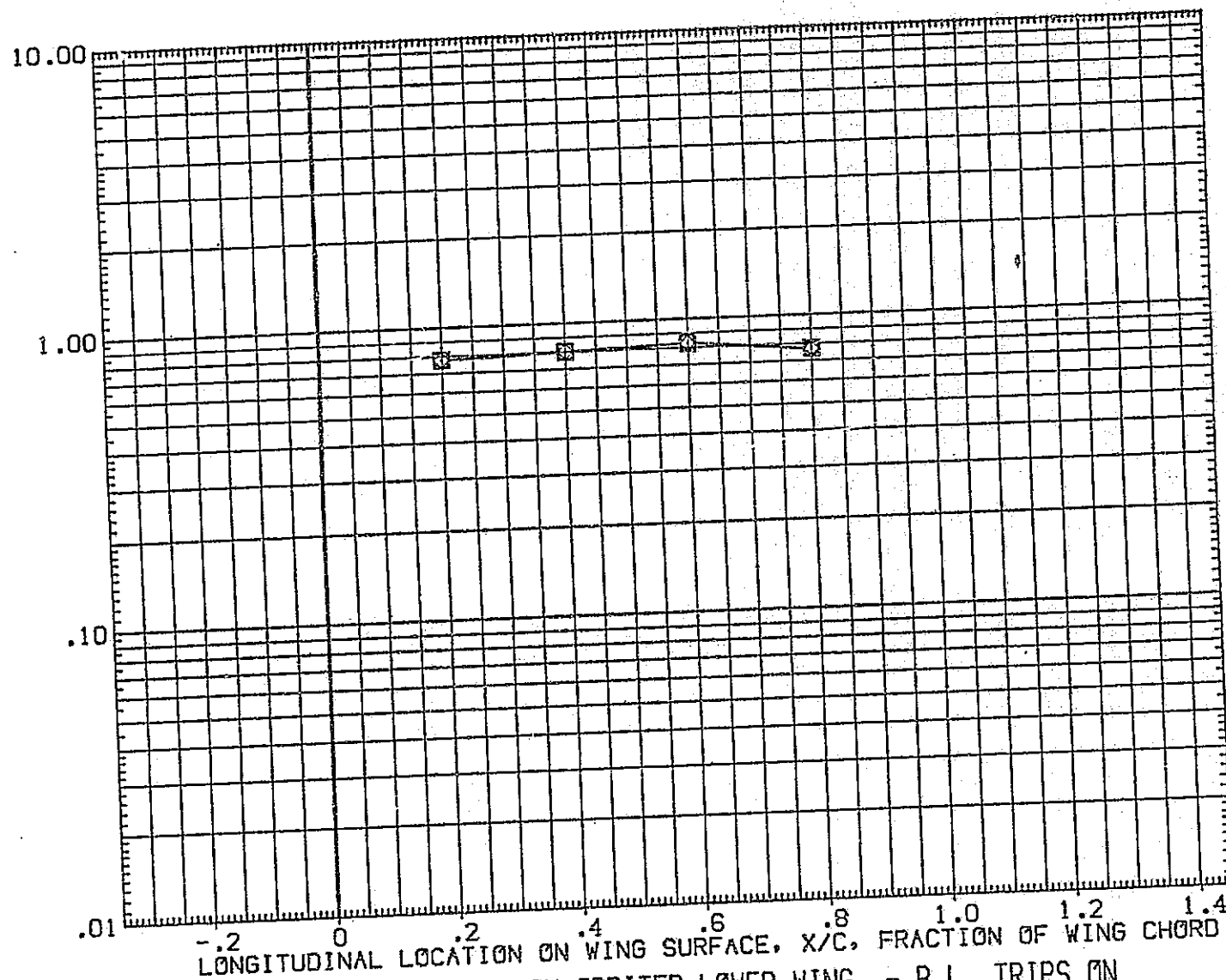


FIG 9 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS ON



SYMBOL

HAW/HT

2Y/B

ALPHA

BETA  
MACH

PARAMETRIC VALUES

.000  
19.800

RN/L

.500

◇ □ ○

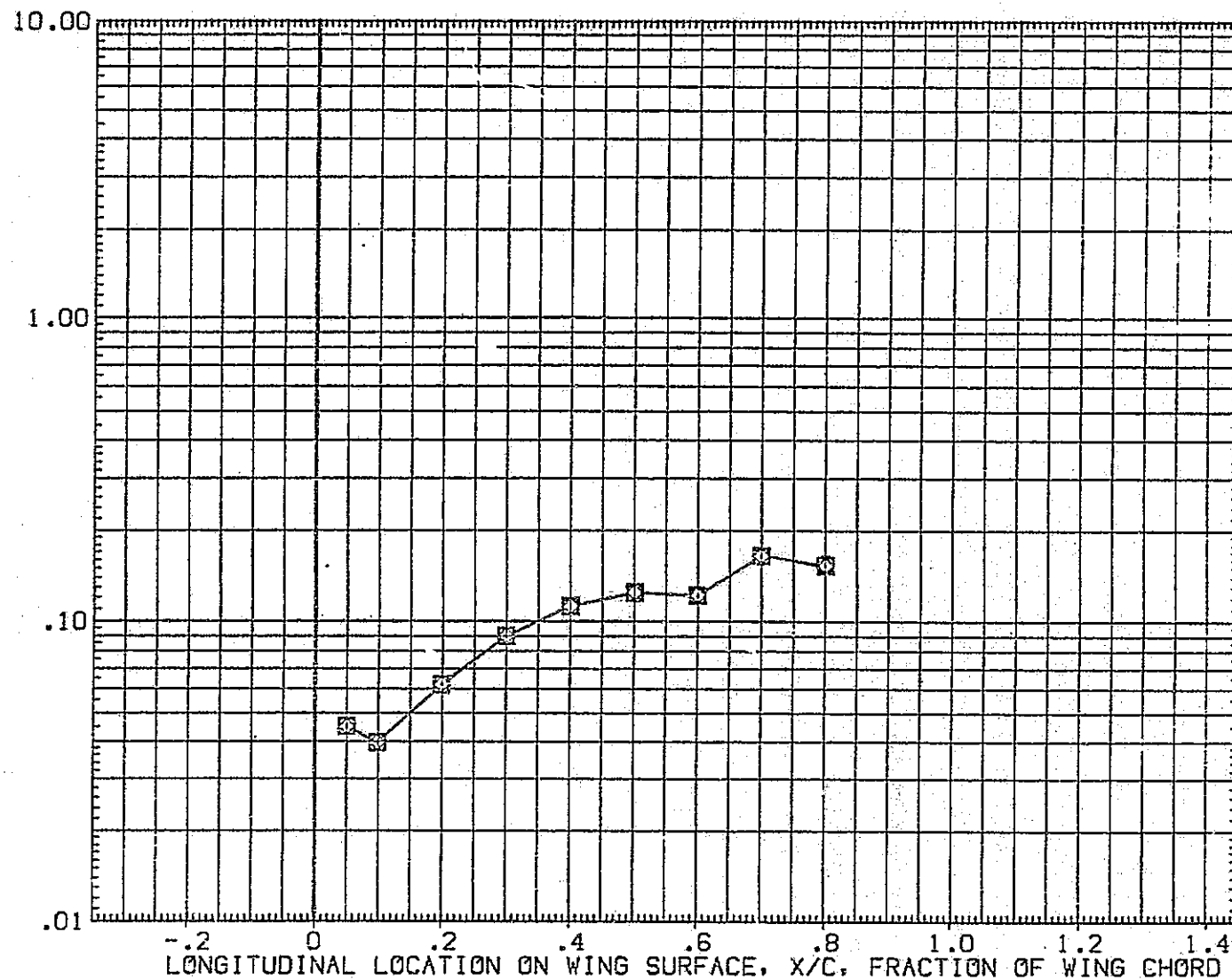
.850  
.900  
1.000RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $H_i/H_u$ 

FIG 9 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS ON

# IH19 RATIO (ORB+TANK)/ORB ORBITER LOWER WING

(DQEW04)

SYMBOL    HAW/HT    2Y/B    ALPHA  
 ◇ □    .850    .600    10.000  
          .900  
          1.000

BETA  
 MACH

PARAMETRIC VALUES  
 .000    RN/L    .500  
 19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $H_i/H_u$

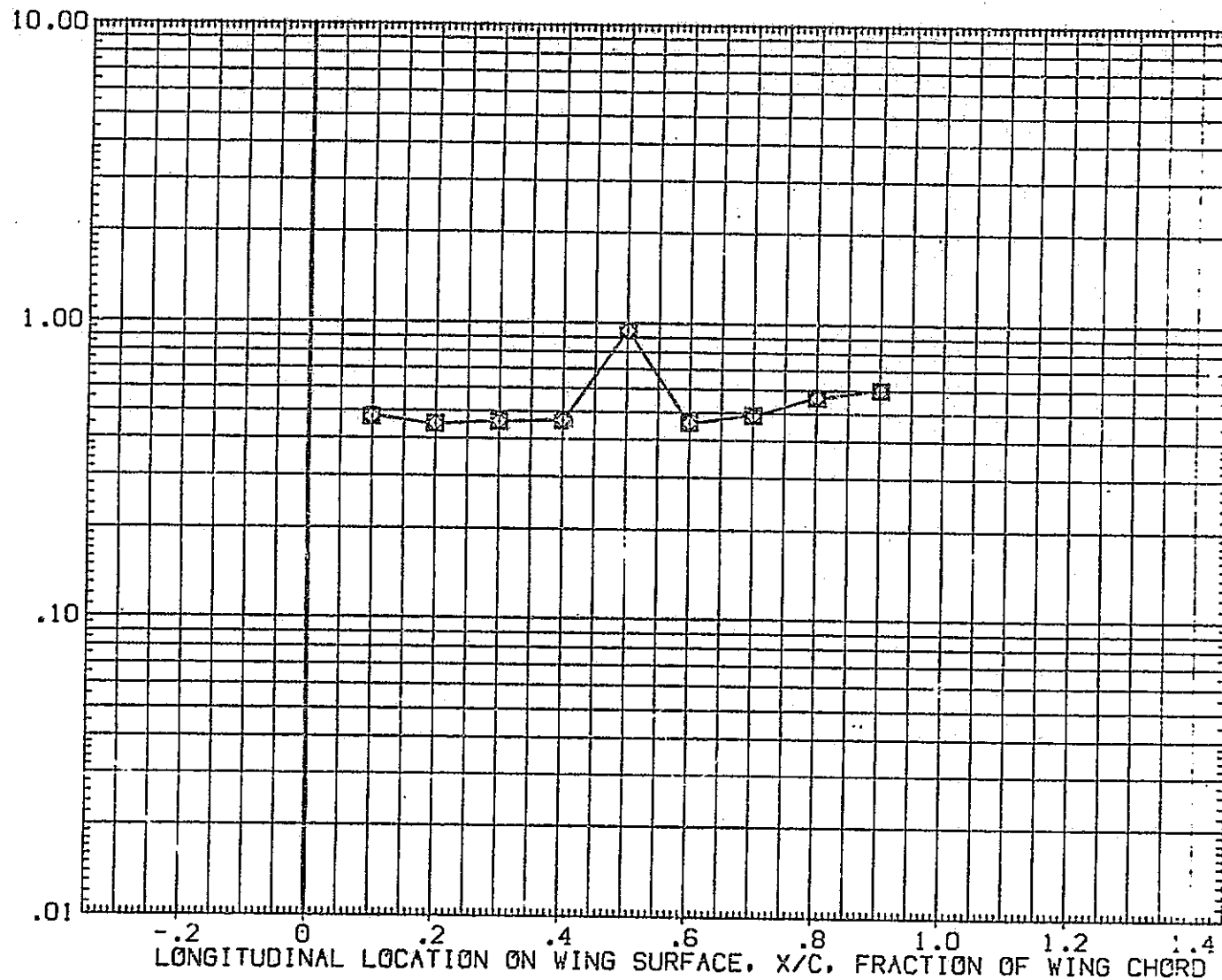


FIG 9 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS ON

## IH19 RATIO (ORB+TANK)/ORB ORBITER LOWER WING

(DQEW04)

SYMBOL	HAW/HT	2Y/B	ALPHA
◇	.850	.800	10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L
MACH	19.800	.500

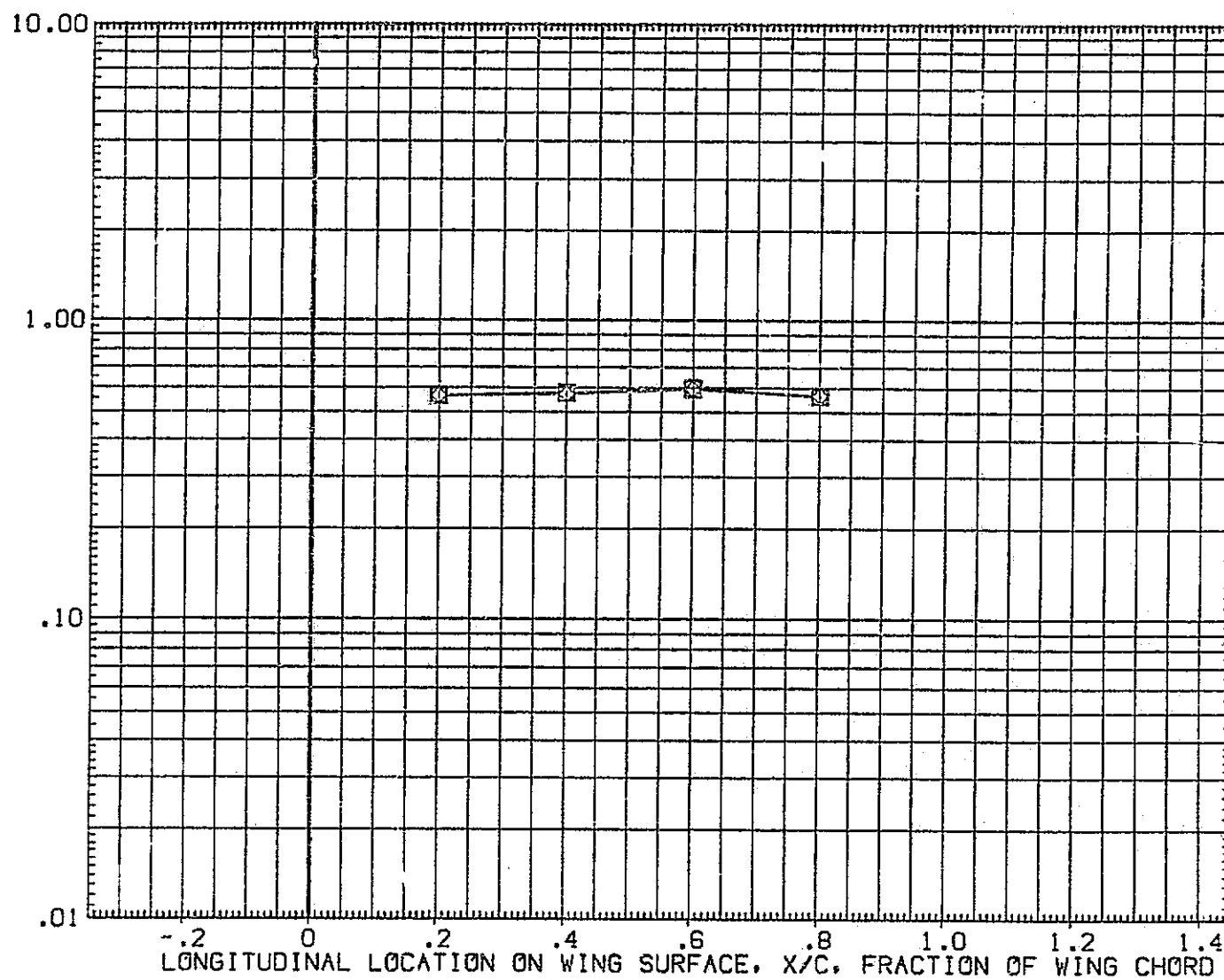
RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $H_i/H_u$ 

FIG 9 AEROHEATING DISTRIBUTION ON ORBITER LOWER WING - B.L. TRIPS ON

IH19 B22C7F5M4V7W111

ORBITER UPPER FUSELAGE (SQEU06)

SYMBOL	HAW/HT	Z(WL)	ALPHA
◇	.850	375.000	-10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	MACH	19.800

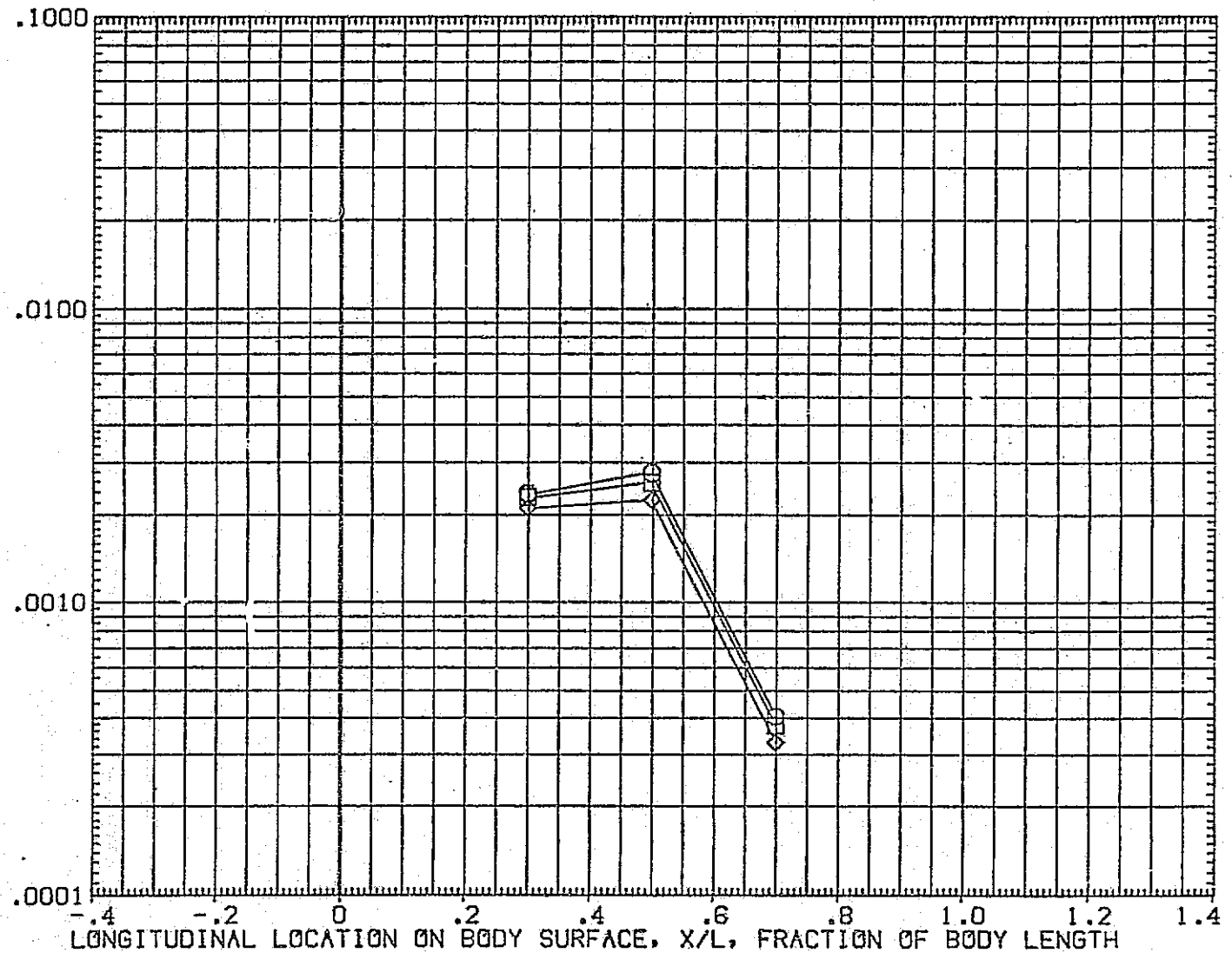
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 10 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS OFF

IH19 B22C7F5M4V7W111

ORBITER UPPER FUSELAGE (SQEU06)

SYMBOL	HAW/HT	Z(WL)	ALPHA
□	.850	425.000	-10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

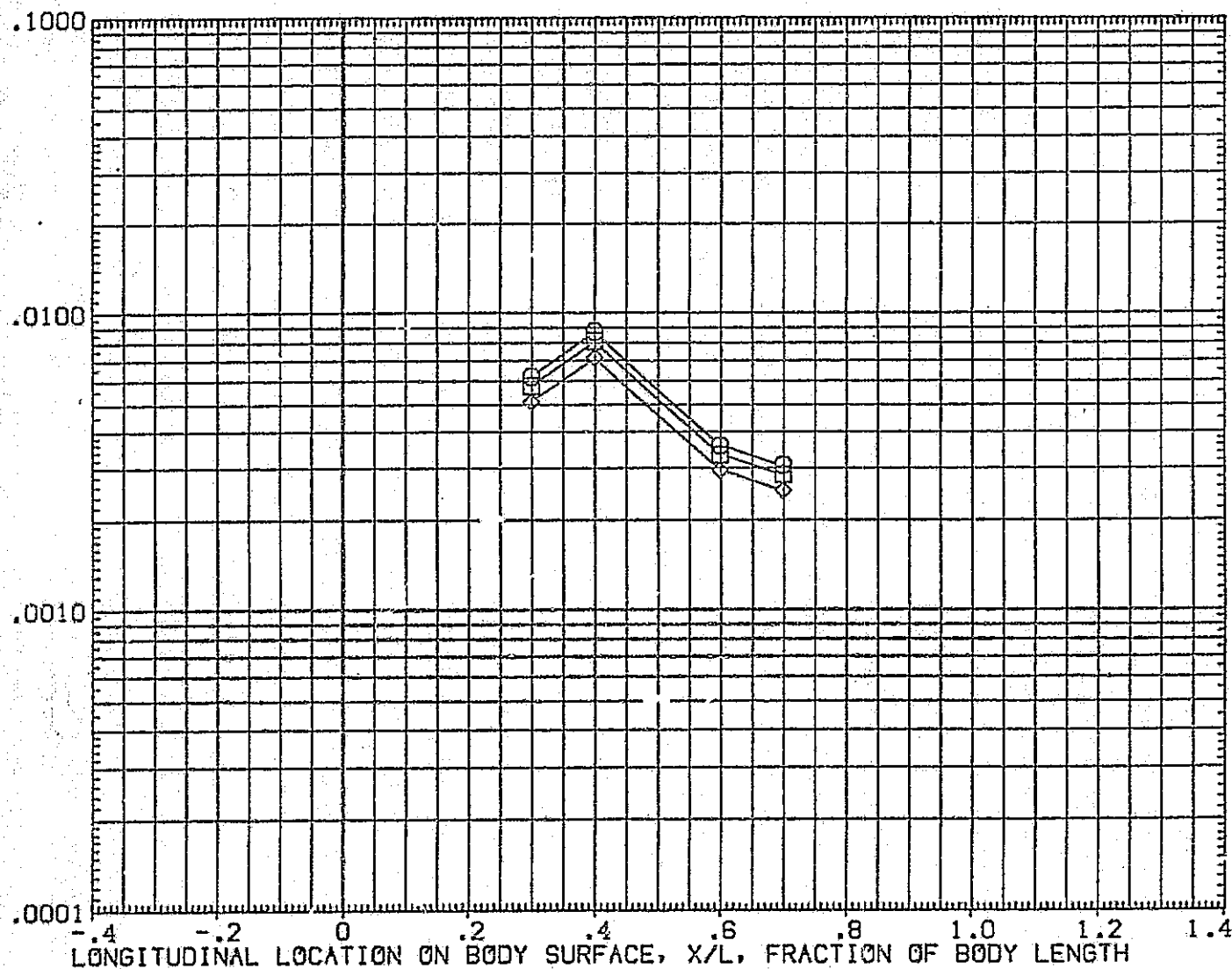


FIG 10 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS OFF

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

IH19 B22C7F5M4V7W111

ORBITER UPPER FUSELAGE (SQEU06)

SYMBOL	HAW/HT	Z(WL)	ALPHA
◇	.850	501.000	-10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	MACH	19.800

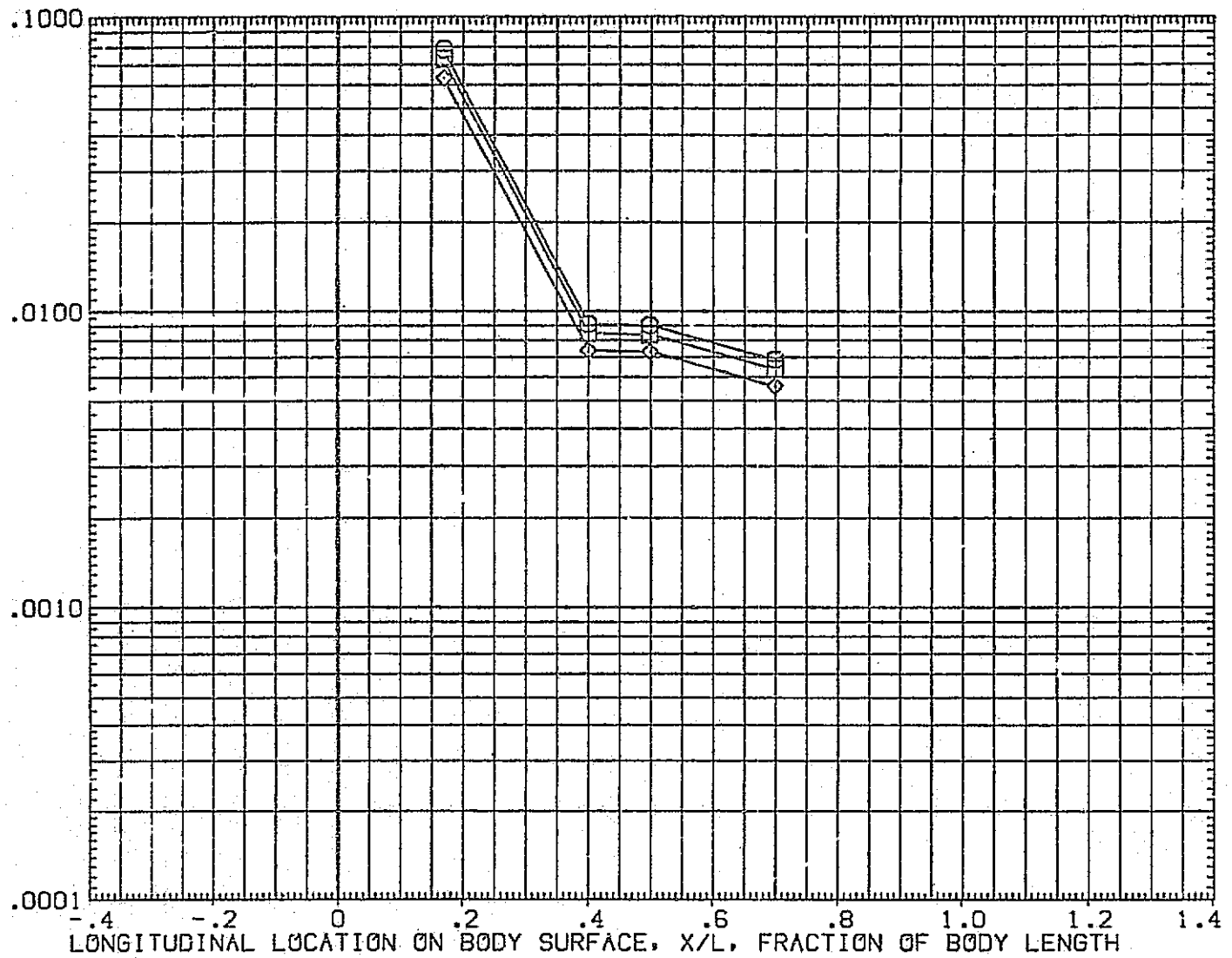
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 10 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS OFF

IH19 B22C7F5M4V7W111

ORBITER UPPER FUSELAGE (SQEUD6)

SYMBOL	HAW/HT	Z(WL)	ALPHA
◇	.850	375.000	-5.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

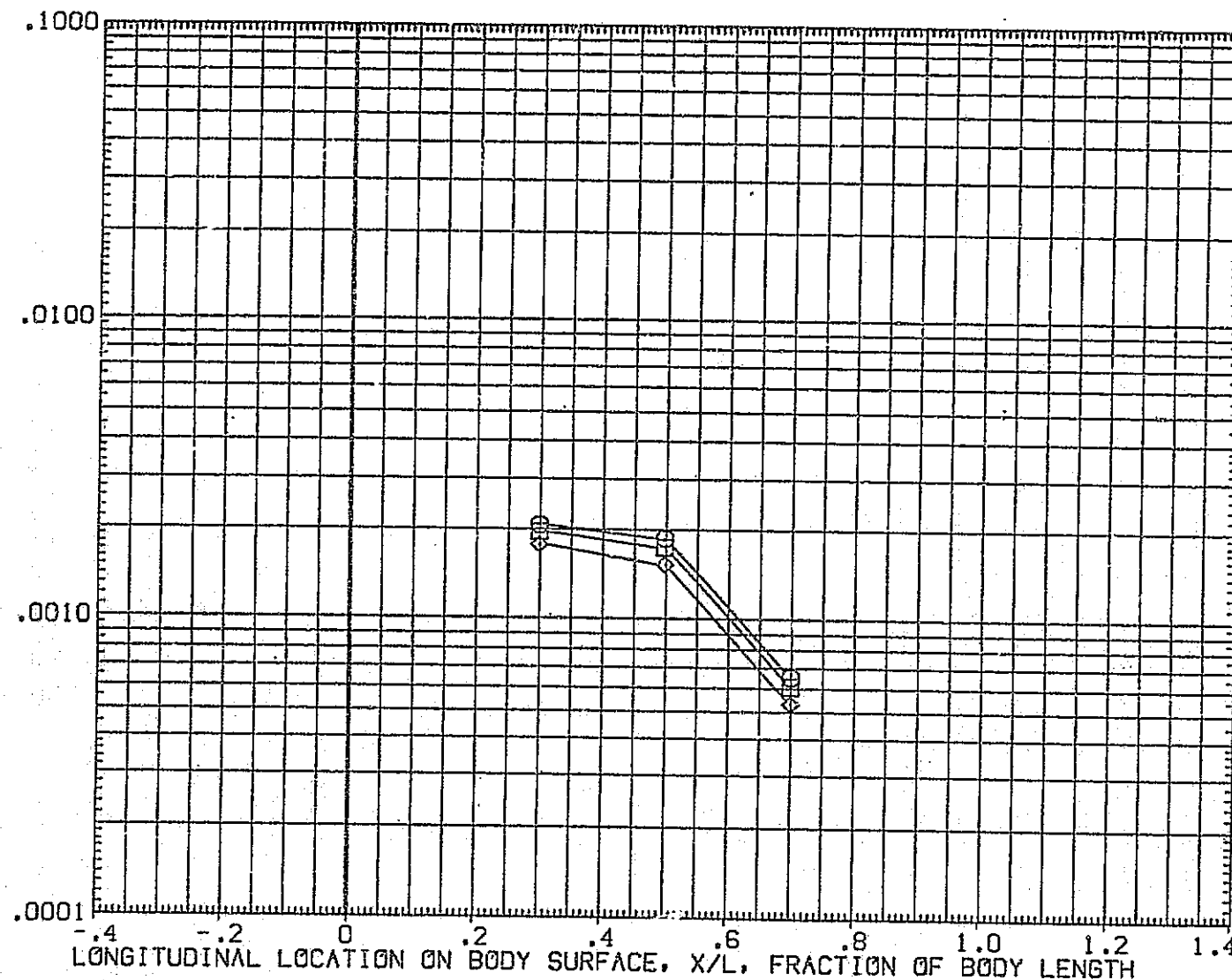
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 10 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS OFF

IH19 B22C7F5M4V7W111

ORBITER UPPER FUSELAGE (SQEU06)

SYMBOL	HAW/HT	Z(VL)	ALPHA
◇	.850	425.000	-5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	HALH	19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

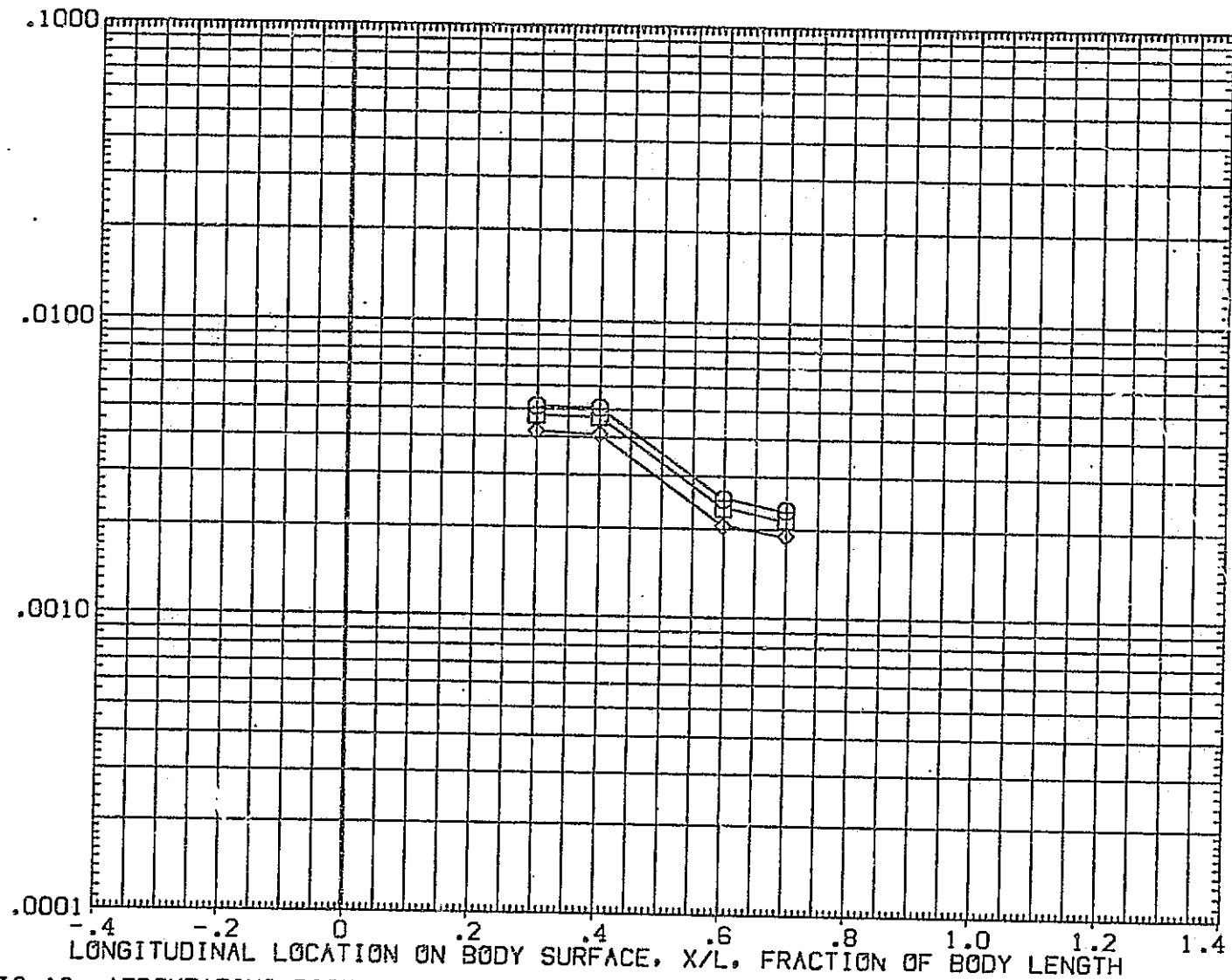


FIG 10 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS OFF



IH19 B22C7F5M4V7W111

ORBITER UPPER FUSELAGE (SQEU06)

SYMBOL	HAW/HT	Z(WL)	ALPHA
○	.850	501.000	-5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	HACH 19.800

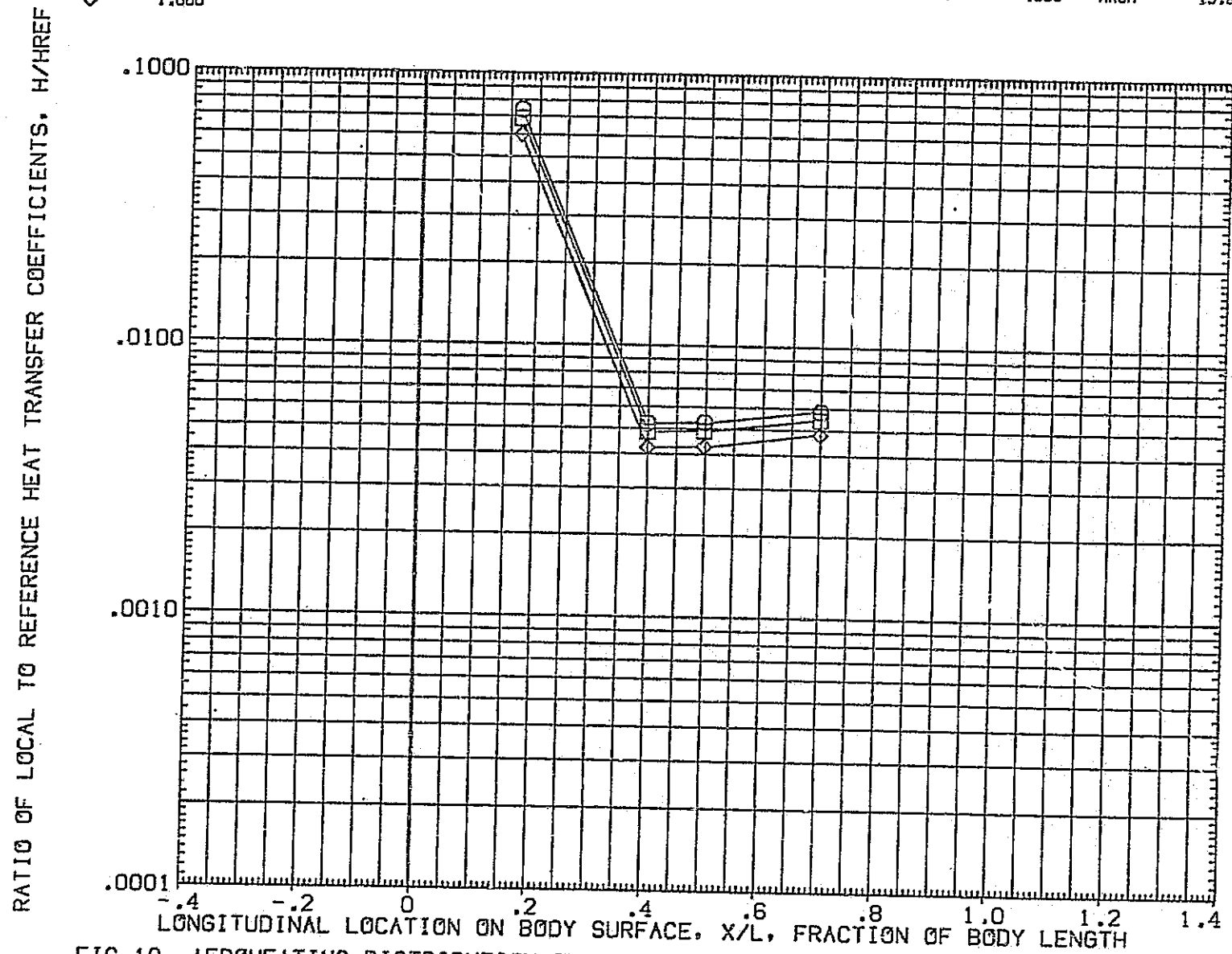


FIG 10 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS OFF

IH19 B22C7F5M4V7W111

ORBITER UPPER FUSELAGE (SQEU06)

SYMBOL	HAW/HT	Z(WL)	ALPHA
□	.850	375.000	.000
◇	.900		
	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

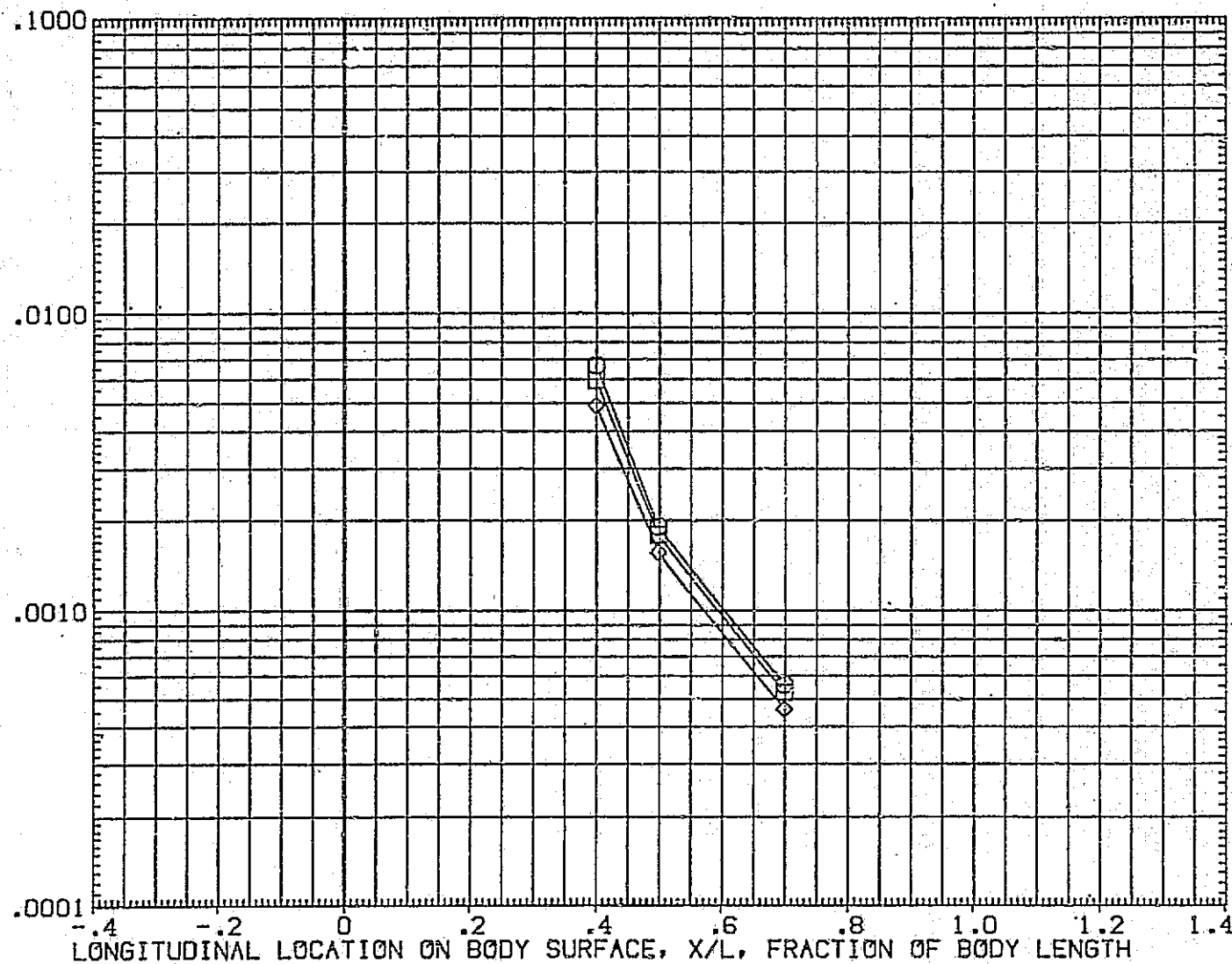


FIG 10 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS OFF

IH19 B22C7F5M4V7W111

ORBITER UPPER FUSELAGE (SQEU06)

SYMBOL

HAW/HT

ZCWL)

ALPHA

BETA

PARAMETRIC VALUES

RN/L

.500

BLTRIP

MACH

19.800

.850

425.000

.000

.900

1.000

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

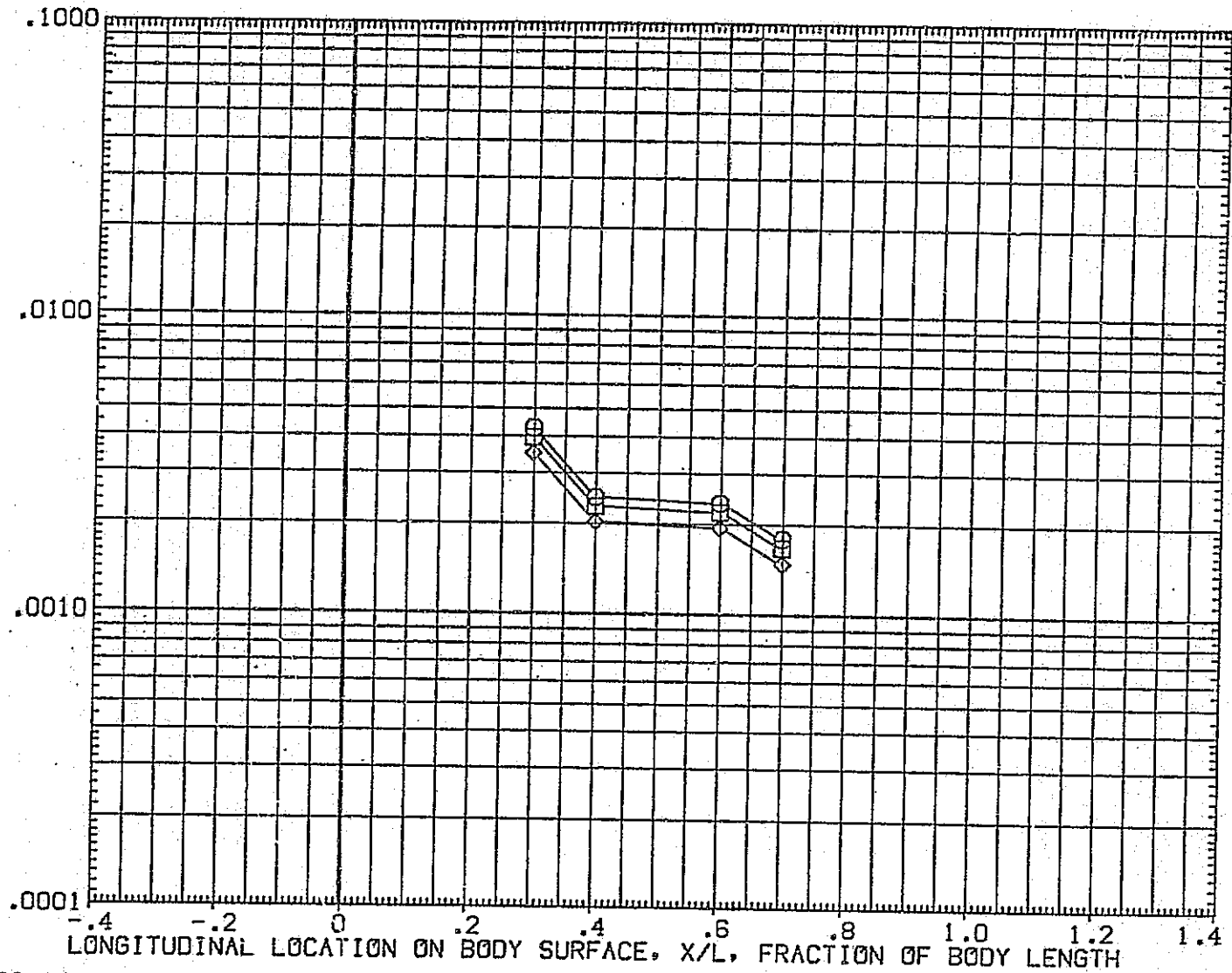


FIG 10 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS OFF

IH19 B22C7F5M4V7W111

ORBITER UPPER FUSELAGE (SQEU06)

SYMBOL	HAW/HT	Z(WL)	ALPHA
◇	.850	501.000	.000
□	.900		
○	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	MACH	19.800

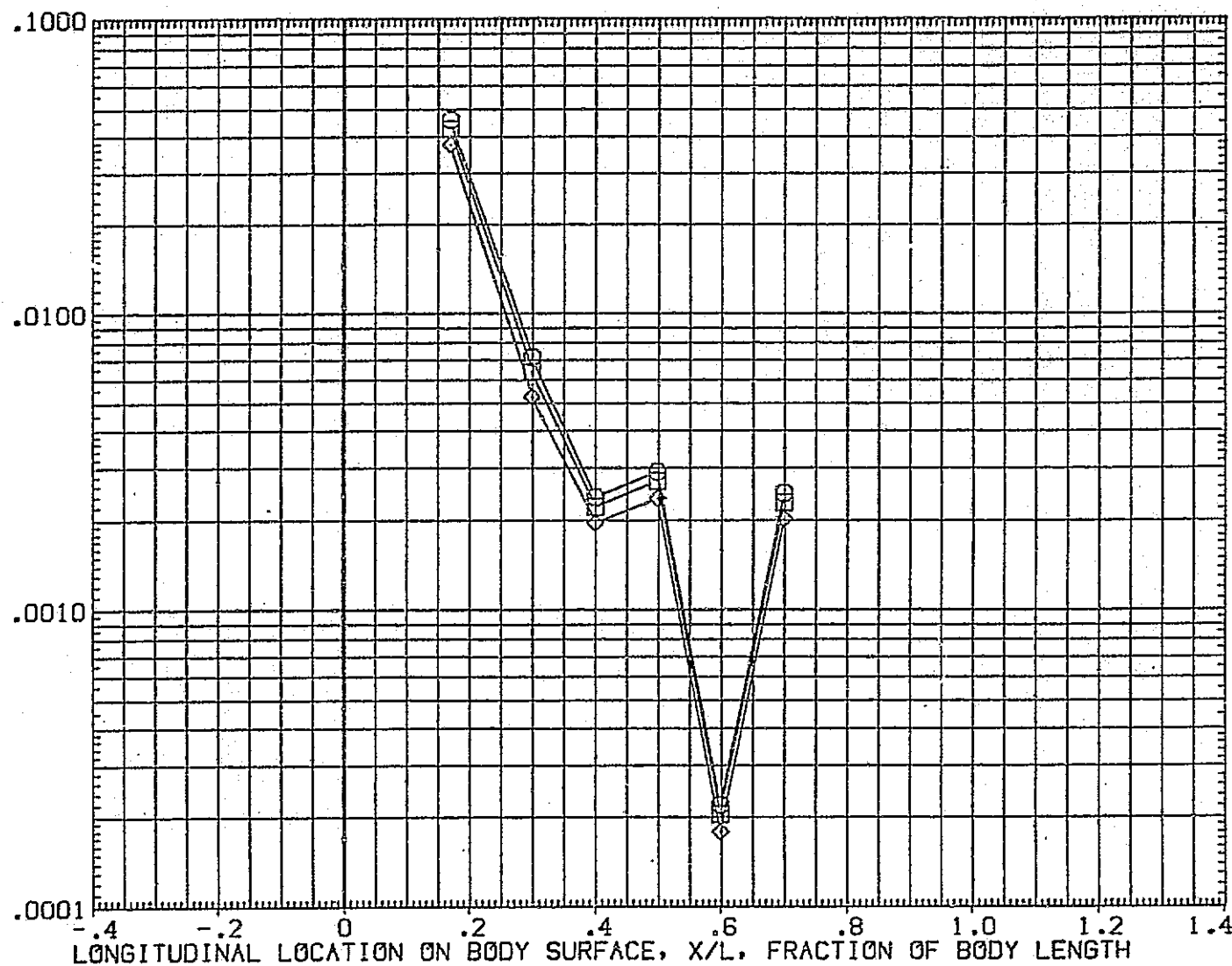
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 10 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS OFF

IH19 B22C7F5M4V7W111

ORBITER UPPER FUSELAGE (SQEU06)

SYMBOL	HAW/HT	Z(WL)	ALPHA
◇	.850	375.000	5.000
□	.900		
□	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

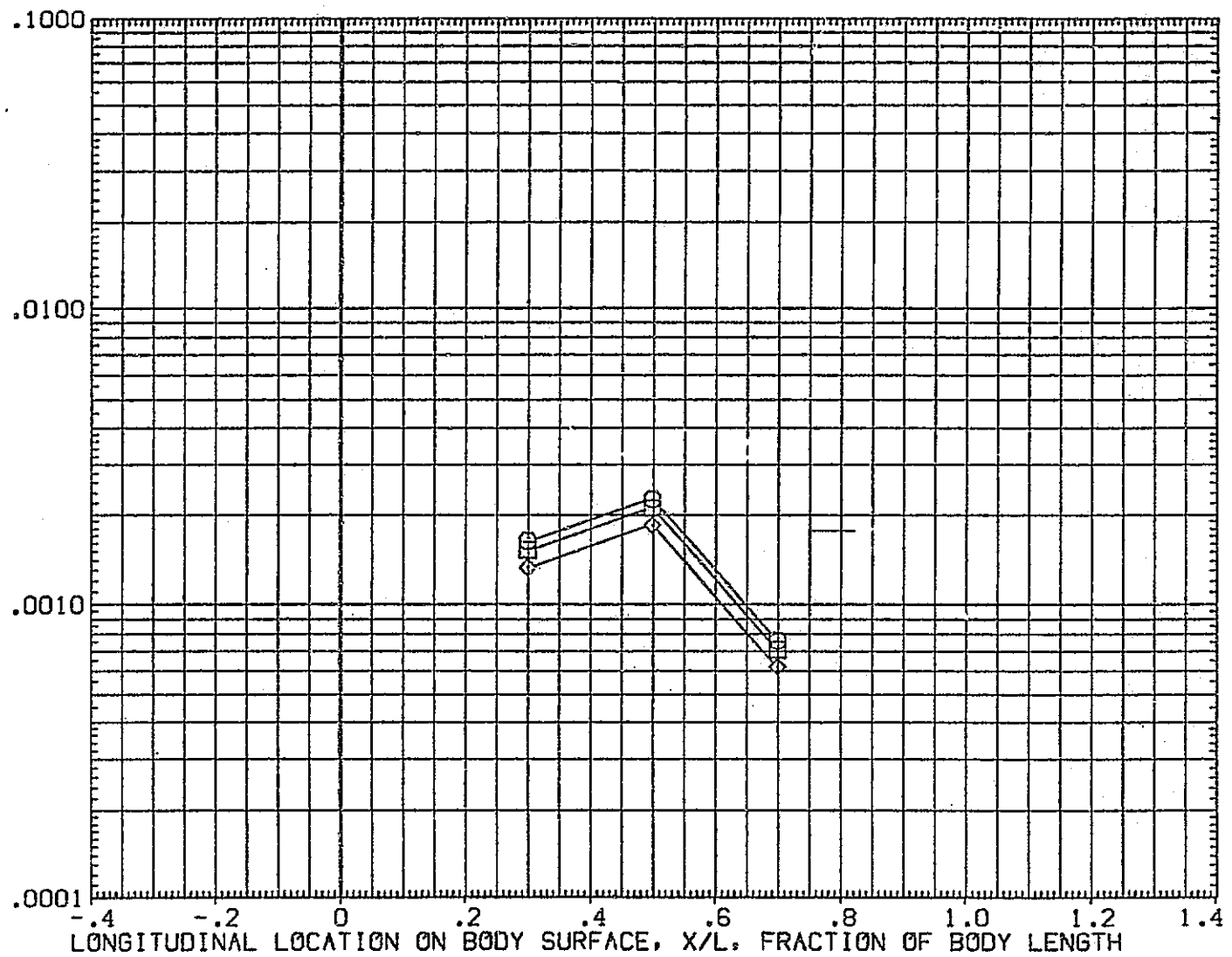


FIG 10 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS OFF

IH19 B22C7F5M4V7W111

ORBITER UPPER FUSELAGE (SQEU06)

SYMBOL	HAW/HT	Z(WL)	ALPHA
◇	.850	425.000	5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	MACH	19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

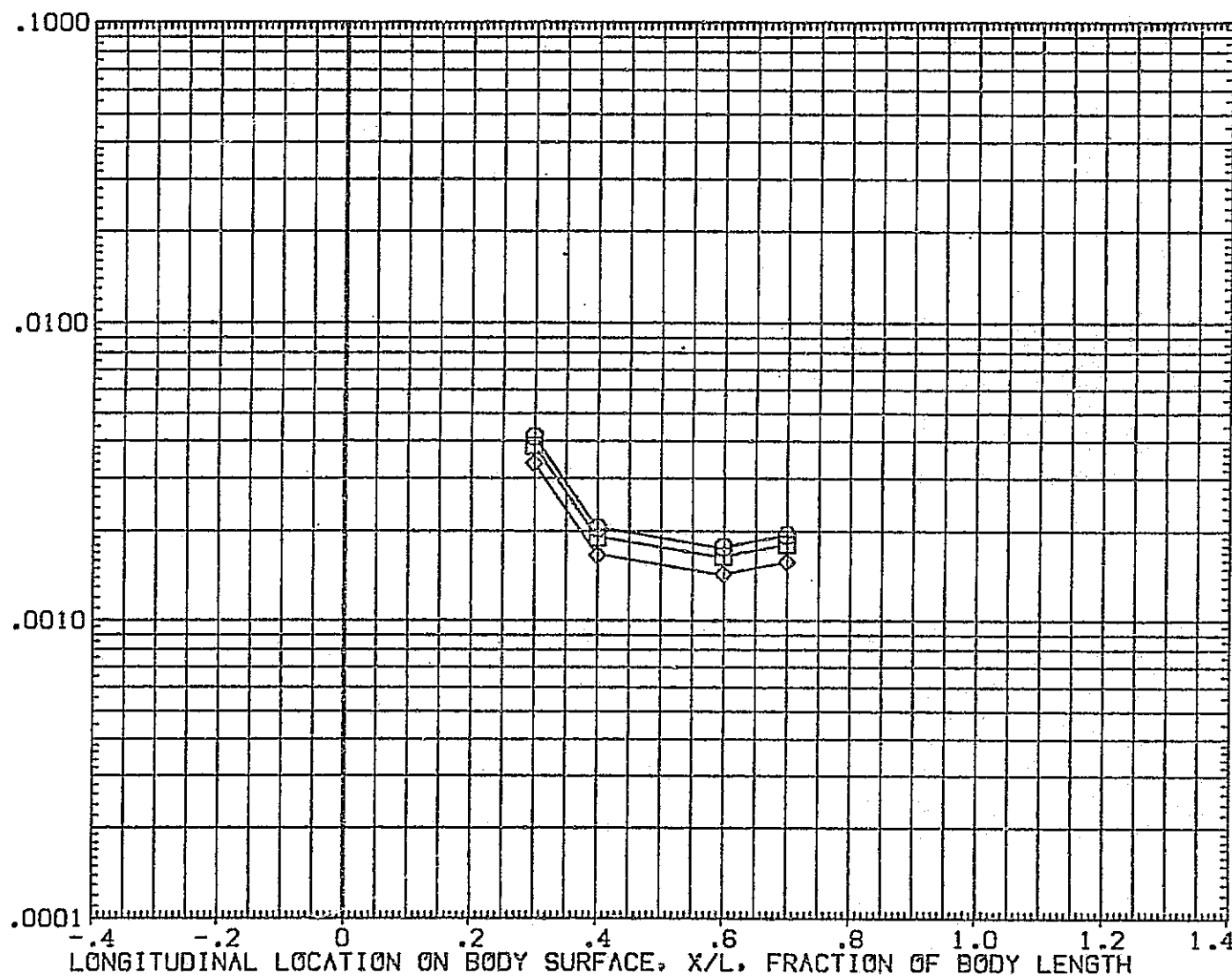


FIG 10 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS OFF

IH19 B22C7F5M4V7W111

ORBITER UPPER FUSELAGE (SQEU06)

SYMBOL	HAW/HT	Z(WL)	ALPHA
○	.850	501.000	5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	MACH	19.800

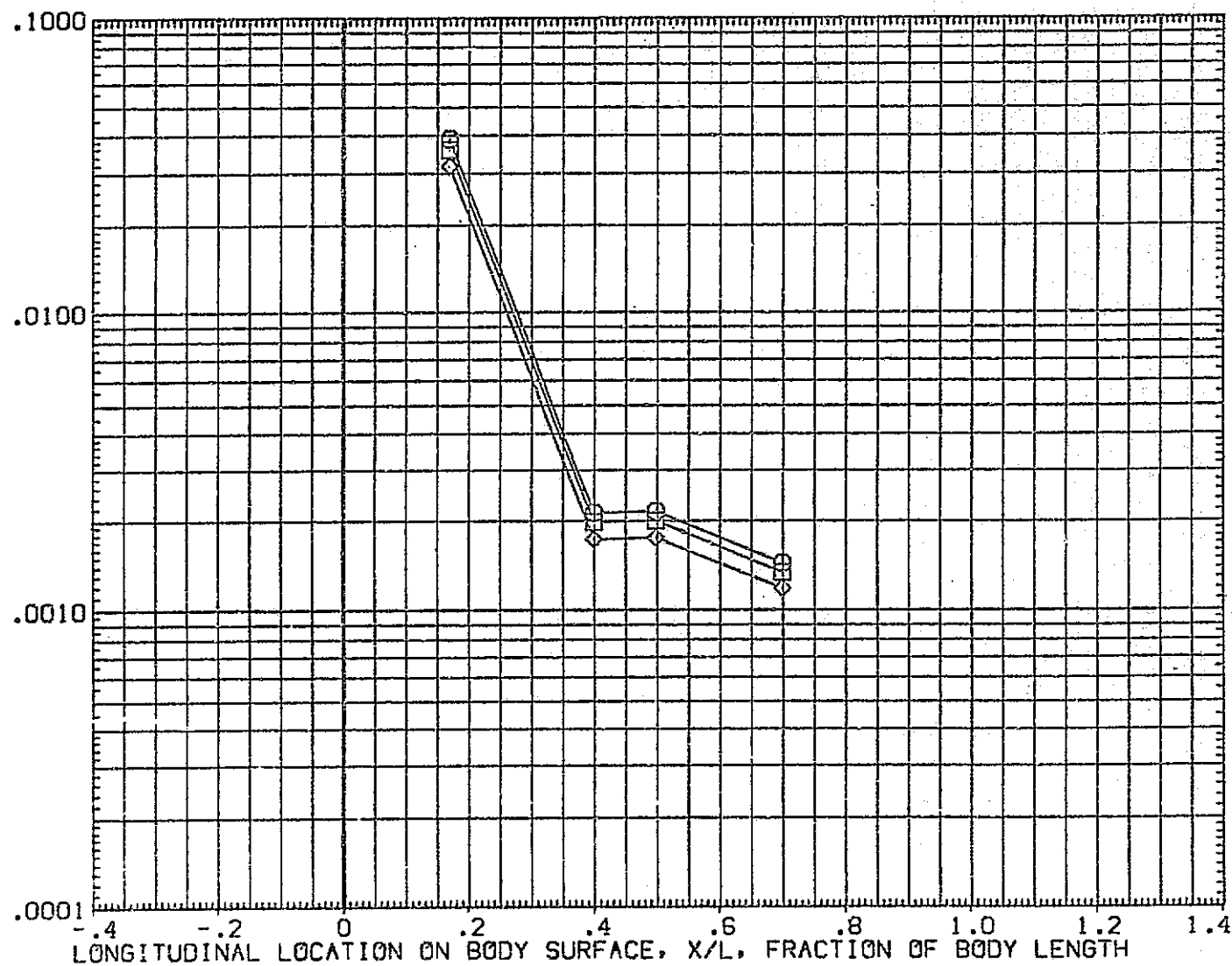
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $h/h_{REF}$ 

FIG 10 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS OFF

IH19 622C7F5M4V7W111

ORBITER UPPER FUSELAGE (SQEU06)

SYMBOL

HAN/HT

Z(WL)

ALPHA

◇  
 □  
 ○

.850

375.000

10.000

.900

1.000

BETA

PARAMETRIC VALUES

.000

RN/L

.500

BLTRIP

.000

MACH

19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

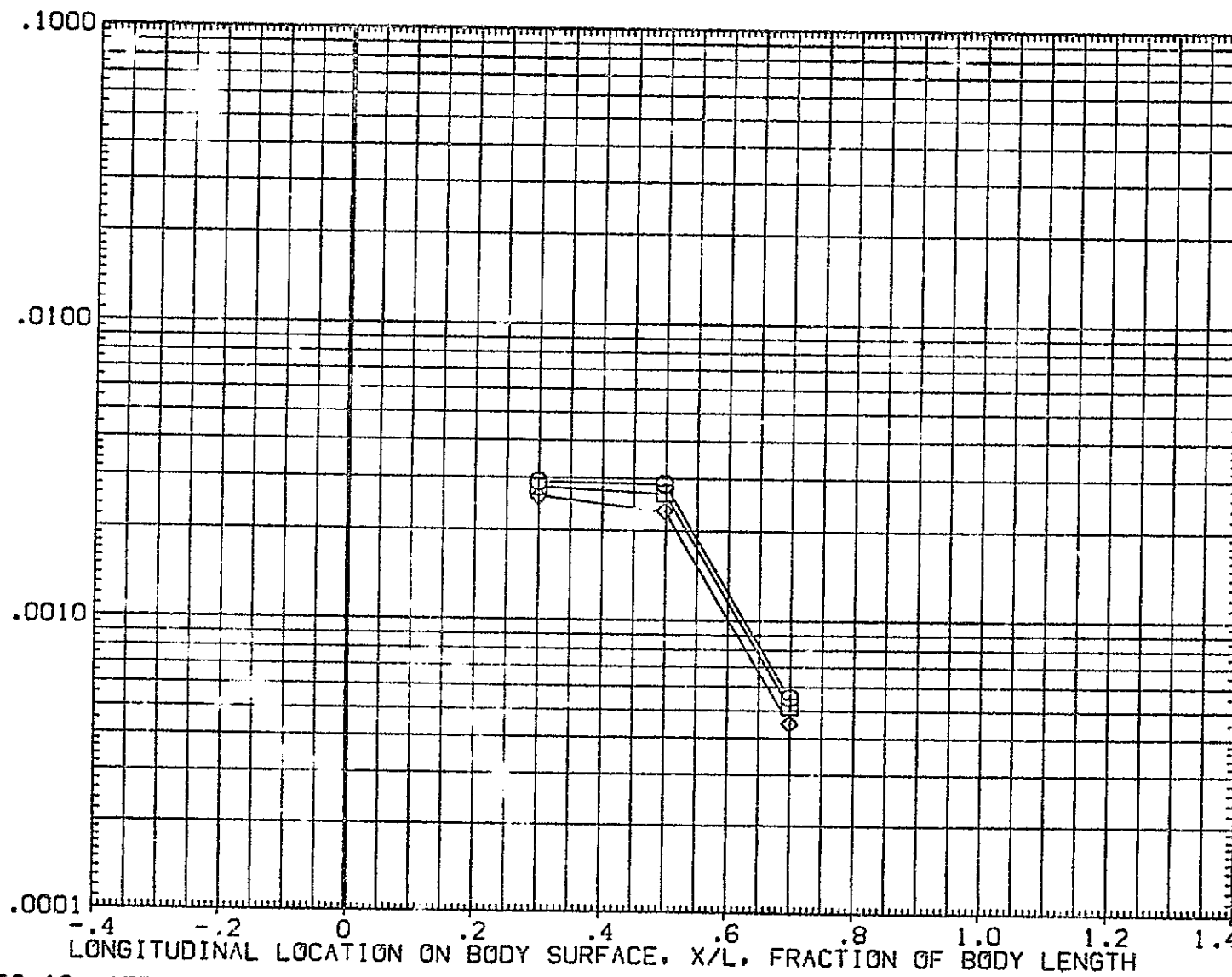


FIG 10 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS OFF



IH19 B22C7F5M4V7W111

ORBITER UPPER FUSELAGE (SQEU06)

SYMBOL	HAW/HT	Z(WL)	ALPHA
◇	.850	425.000	10.000
□	.900		
□	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	HACH 19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

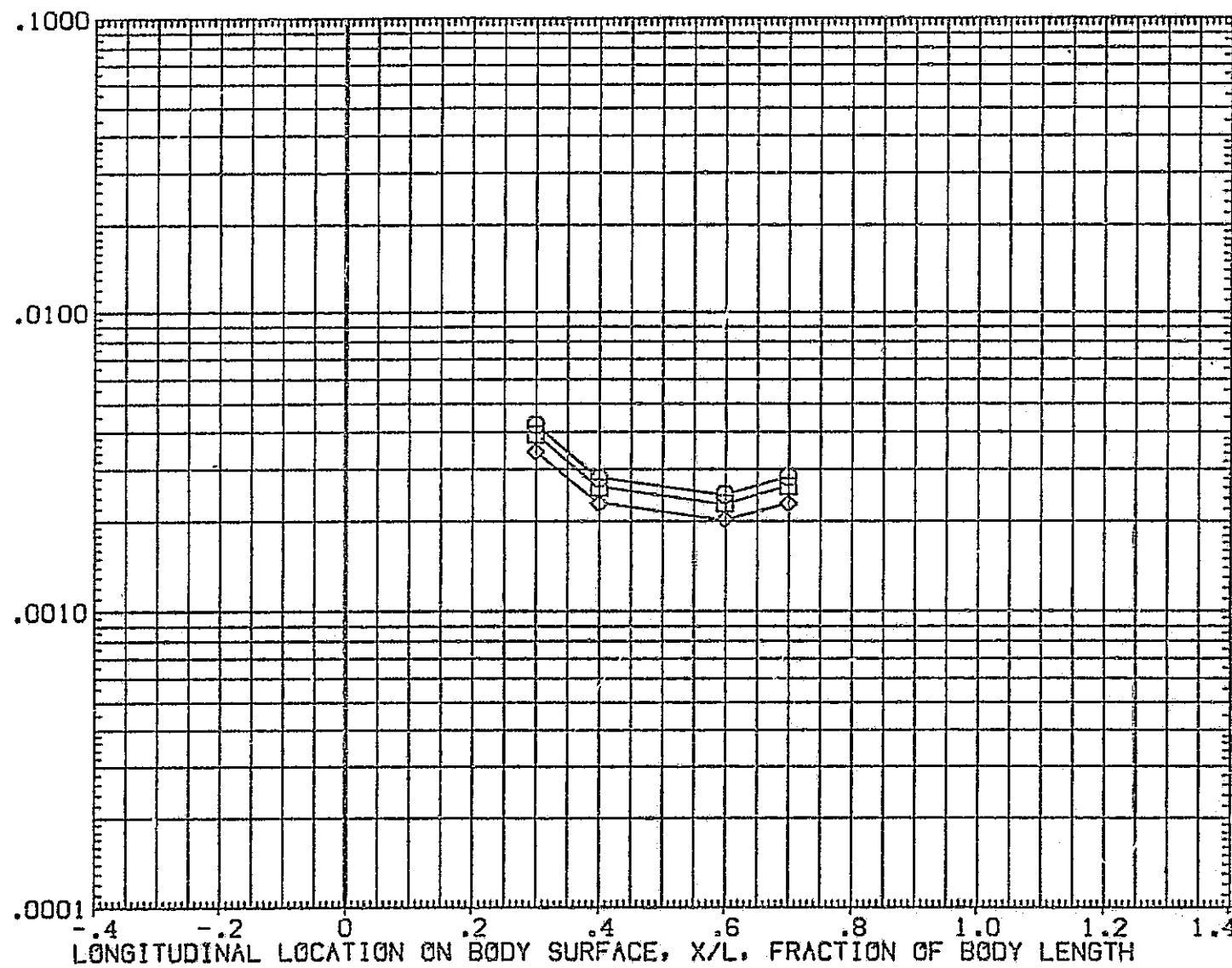


FIG 10 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS OFF

IH19 B22C7F5M4V7W111

ORBITER UPPER FUSELAGE (SQEU06)

SYMBOL

HAW/HT

Z(ML)

ALPHA

PARAMETRIC VALUES

BETA

.000

RN/L

.500

BLTRIP

.000

HACH

19.800

◊  
 □  
 ○

.850

501.000

10.000

.900

1.000

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

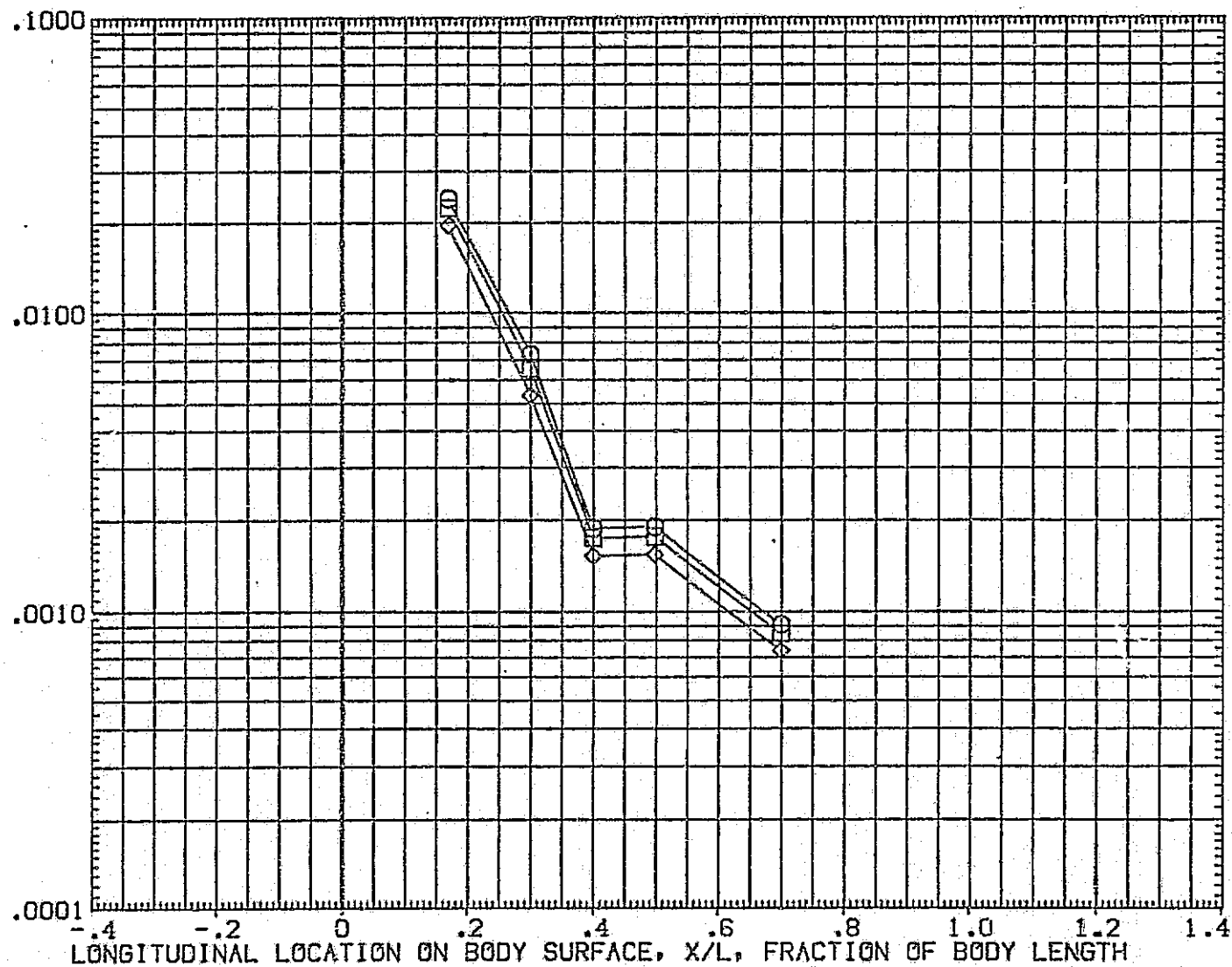


FIG 10 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS OFF

SYMBOL	HAW/HT	Z(WL)	ALPHA
◇	.850	375.000	-10.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
MACH	19.800	

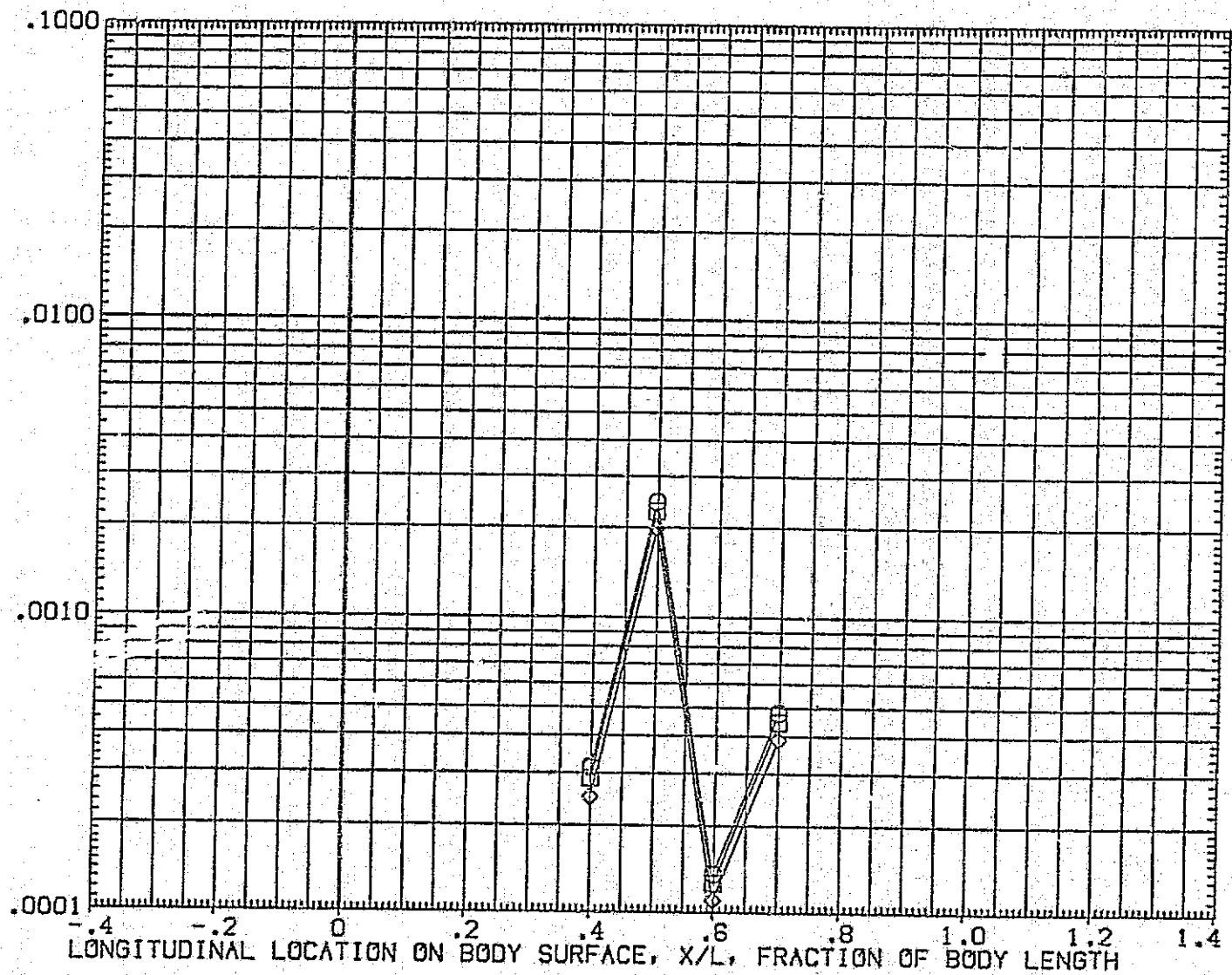
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 10 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS OFF

# IH19 B22C7F5M4V7W111 T8 ORBITER UPPER FUSELAGE (R0EU03)

SYMBOL	HAW/HT	Z(WL)	ALPHA
◇	.850	425.000	-10.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
MACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

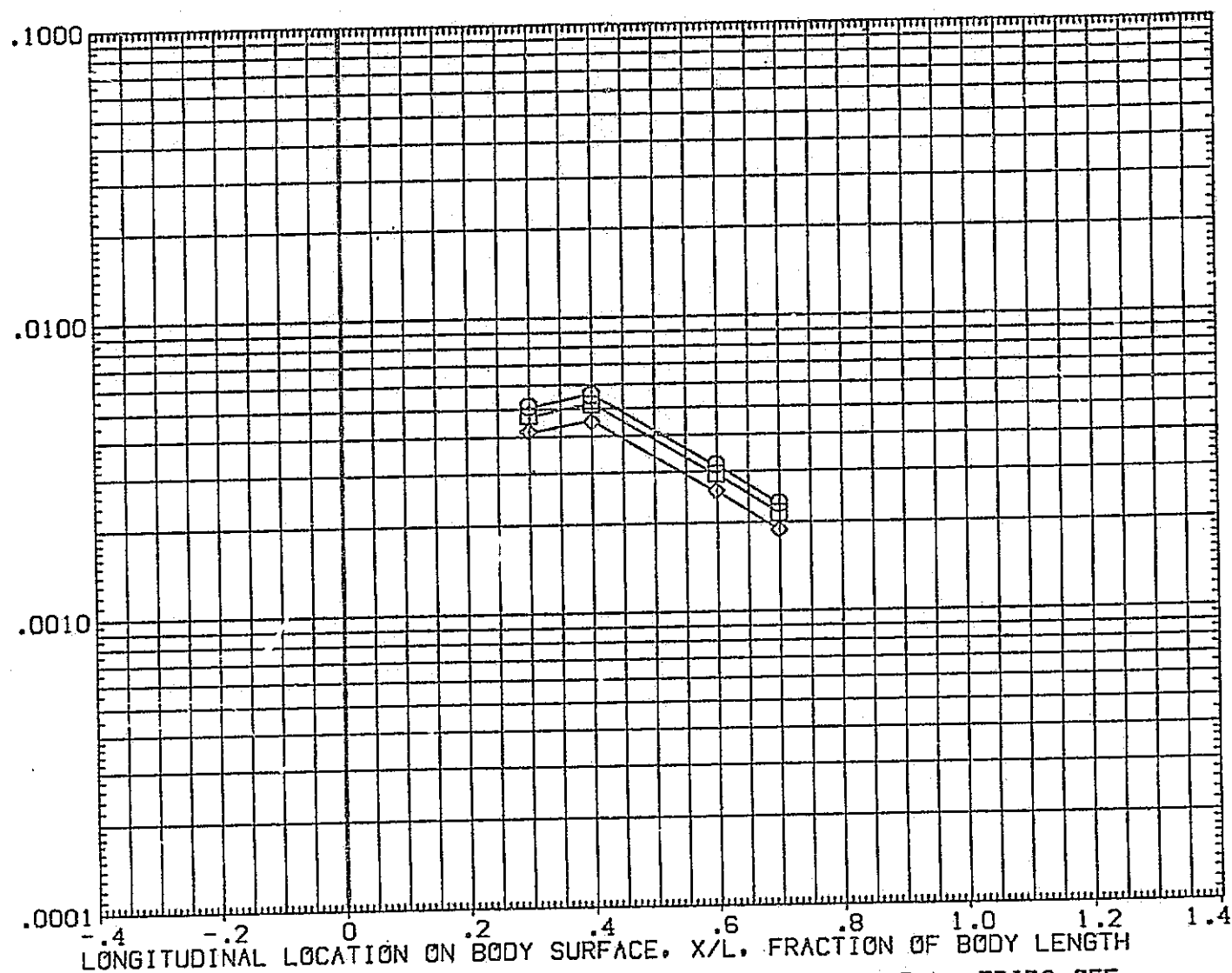


FIG 10 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS OFF

IH19 B22C7F5M4V7W111 T8 ORBITER UPPER FUSELAGE (RQEU03)

SYMBOL	HAW/HT	Z(WL)	ALPHA
◇	.850	501.000	-10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
MACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$

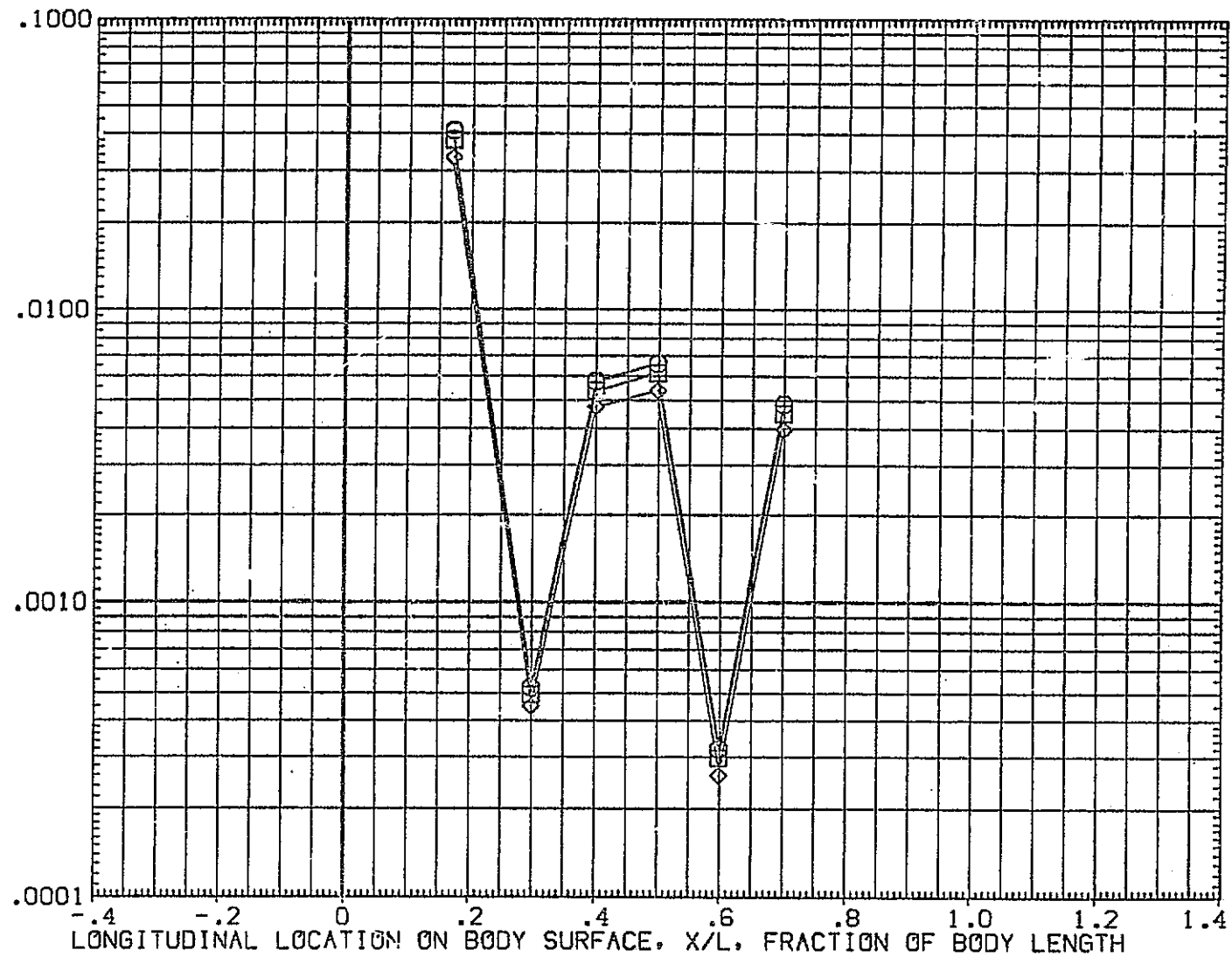


FIG 10 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS OFF

# IH19 B22C7F5M4V7W111 T8 ORBITER UPPER FUSELAGE (RQEU03)

SYMBOL	HAW/HT	Z(WL)	ALPHA
○	.850	375.000	-5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
MACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$

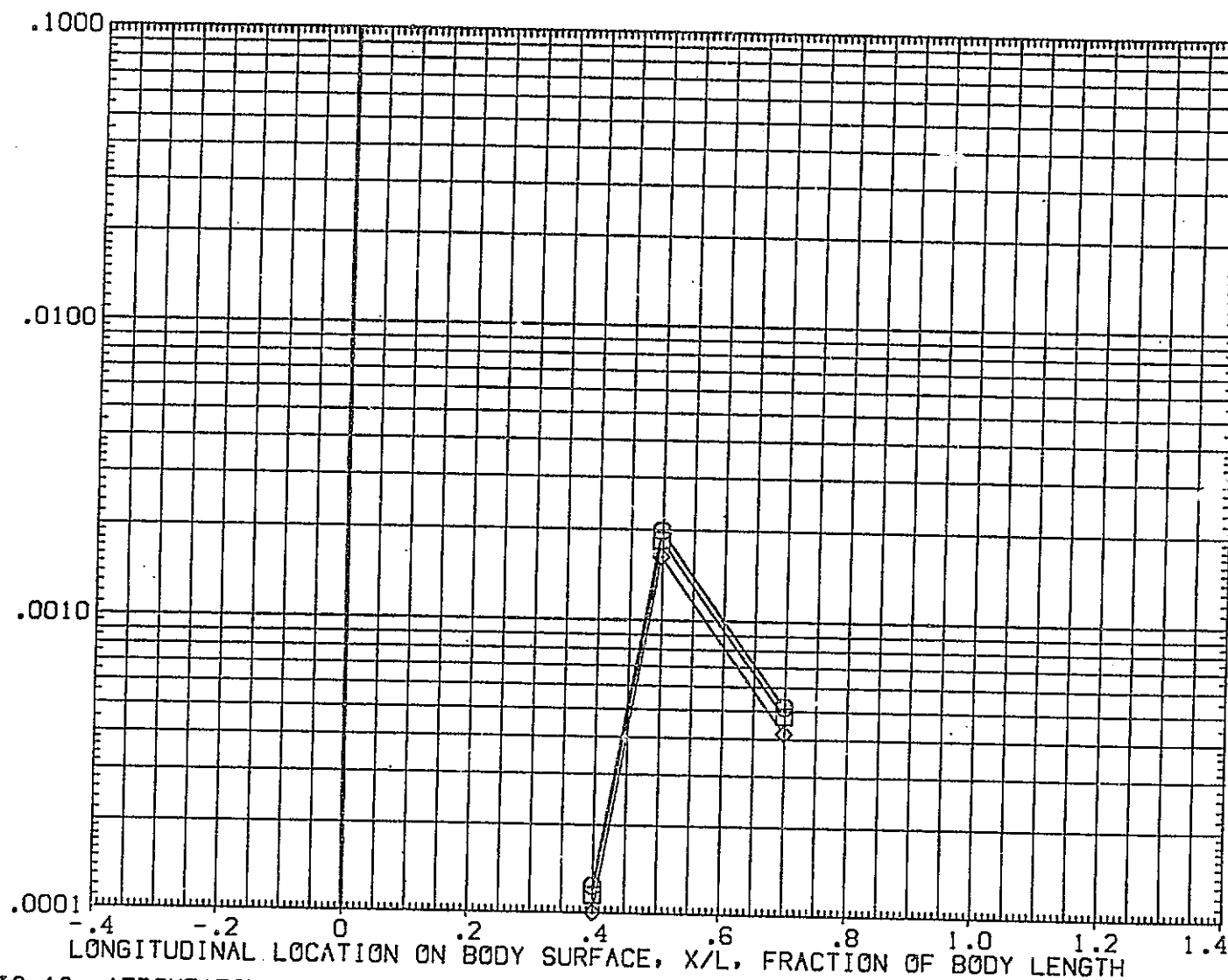


FIG 10 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS OFF

IH19 B22C7F5M4V7W111 T8 ORBITER UPPER FUSELAGE (R0EU03)

SYMBOL	HAW/HT	Z(WL)	ALPHA
○	.850	425.000	-5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	DELTAH	.175
MACH	19.800		

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

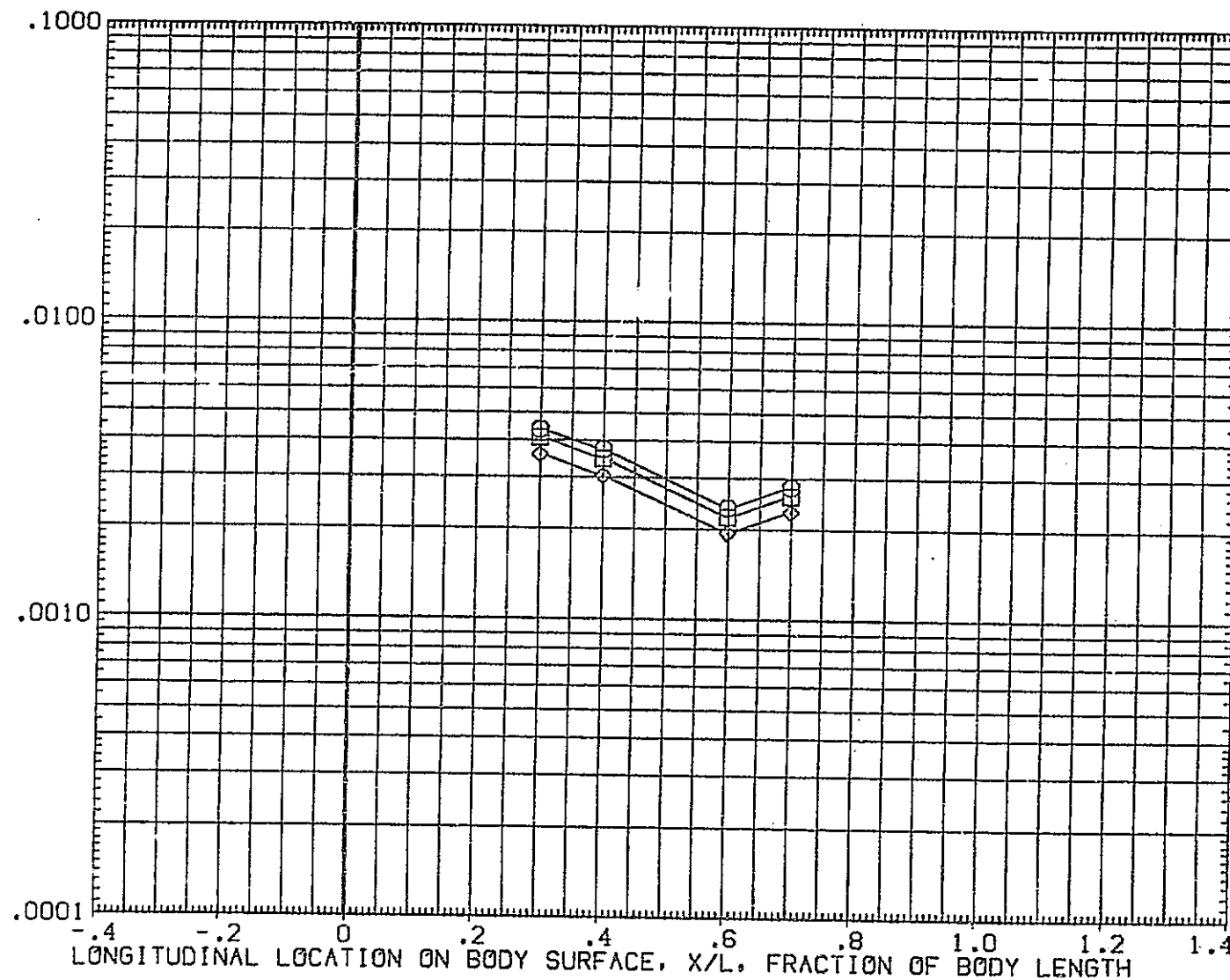


FIG 10 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS OFF

# IH19 B22C7F5M4V7W111 T8 ORBITER UPPER FUSELAGE (RQEU03)

SYMBOL	HAW/HT	Z(WL)	ALPHA
□	.850	501.000	-5.000
◇	.900		
	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
MACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$

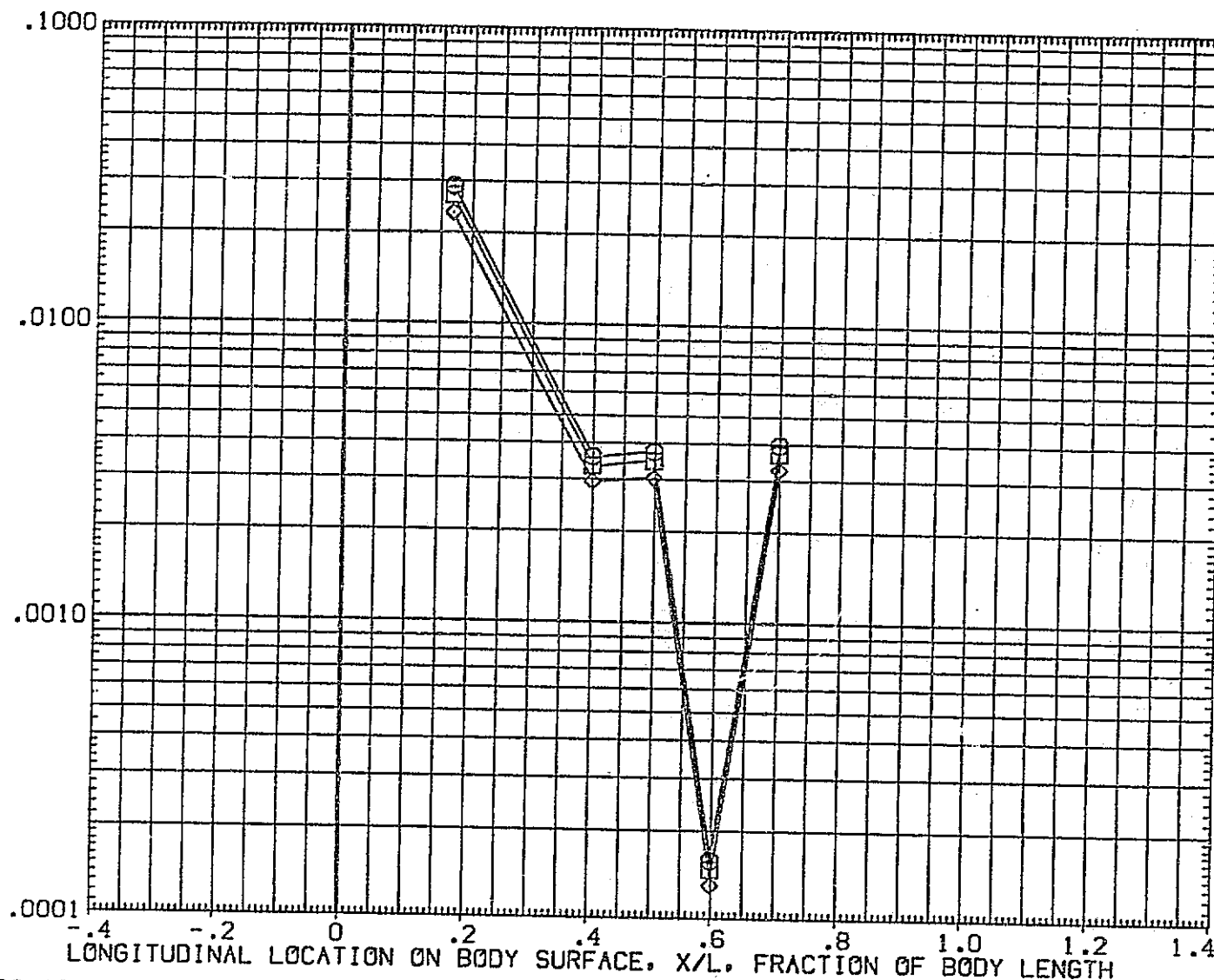


FIG 10 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS OFF



IH19 B22C7F5M4V7W111 T8 ORBITER UPPER FUSELAGE (RQEU03)

SYMBOL	HAW/HT	Z(VL)	ALPHA
○	.850	375.000	.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .75
MACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $h/h_{REF}$

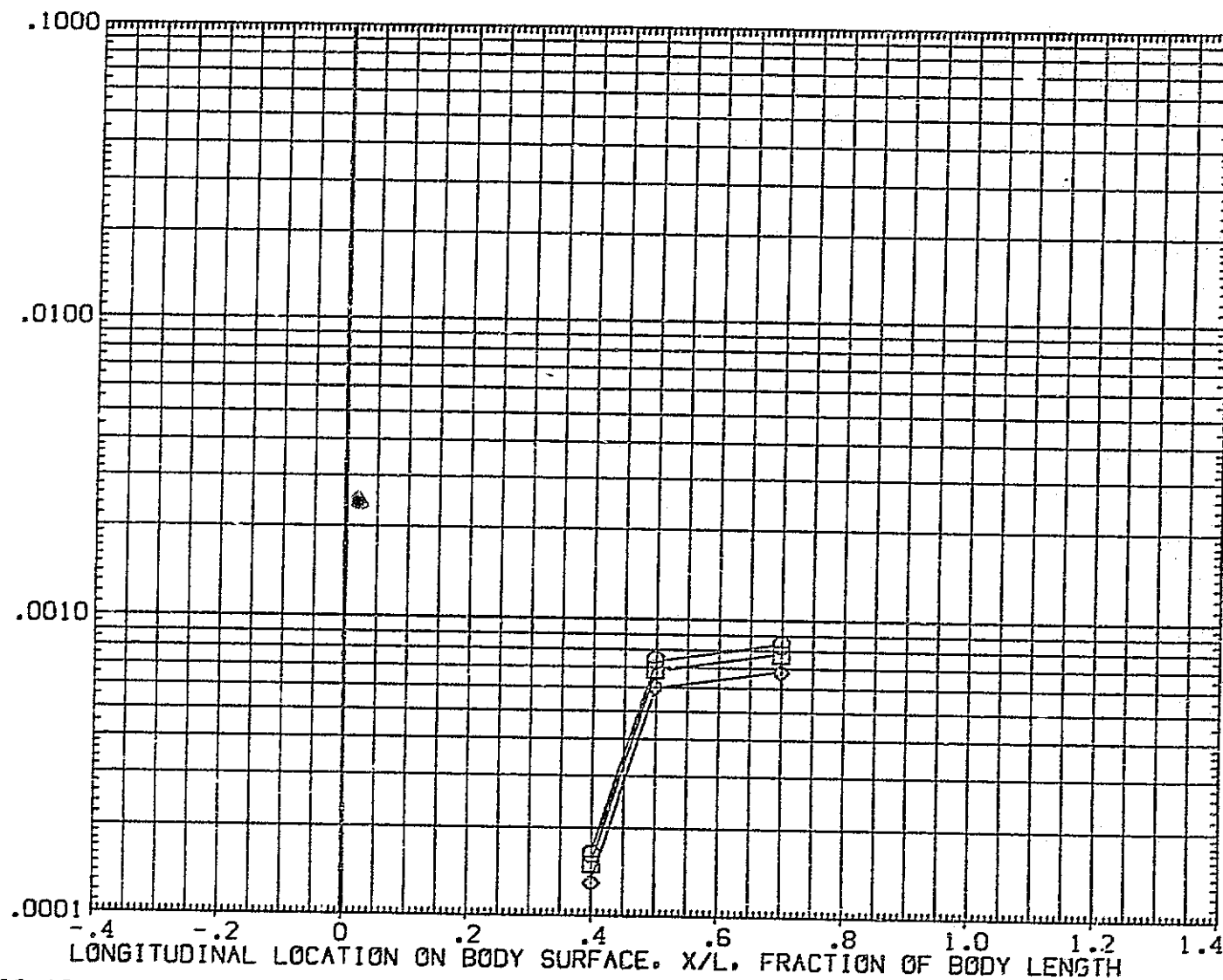


FIG 10 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS OFF

IH19 B22C7F5M4V7W111 T8 ORBITER UPPER FUSELAGE (RQEU03)

SYMBOL	HAW/HT	Z(WL)	ALPHA
○	.850	425.000	.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	DELTAH	.175
MACH	19.800		

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

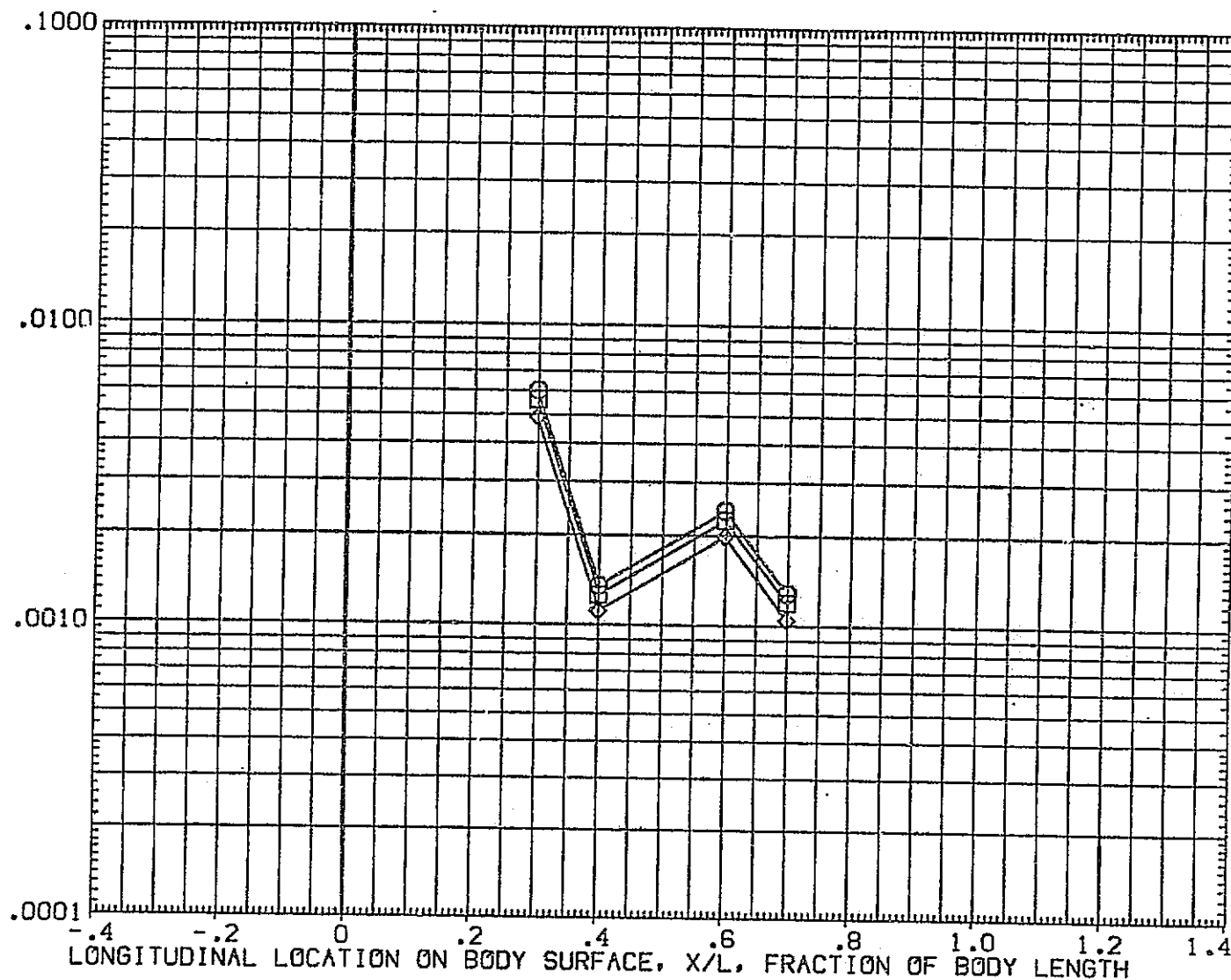


FIG 10 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS OFF

SYMBOL	HAW/HT	Z(WL)	ALPHA
◇	.950	501.000	.000
□	.900		
○	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	DELTAH	.175
MACH	19.800		

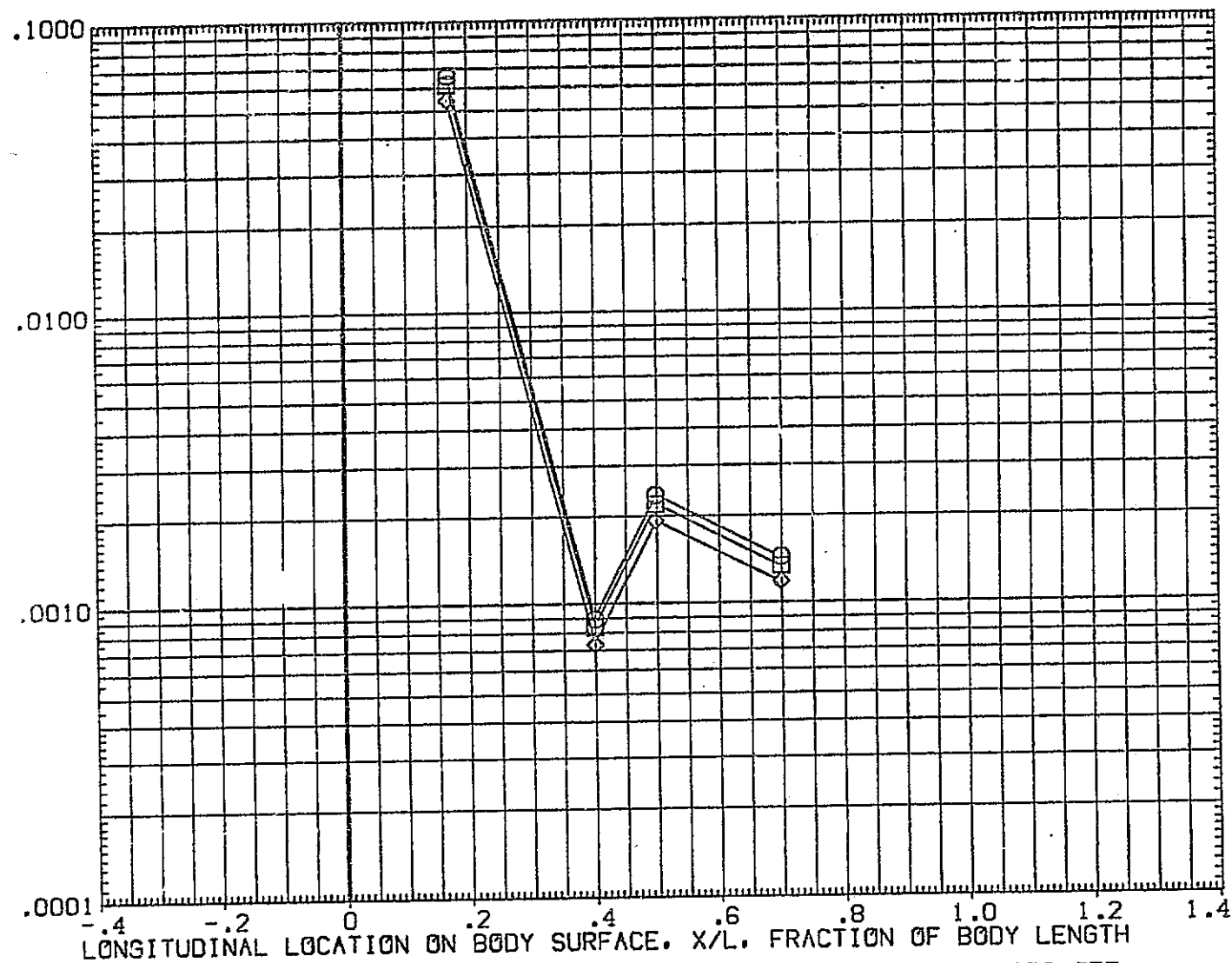
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 10 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS OFF

IH19 B22C7F5M4V7W111 T8 ORBITER UPPER FUSELAGE (RQEU03)

SYMBOL	HAW/HT	Z(WL)	ALPHA
□	.850	375.000	5.000
○	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
MACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$

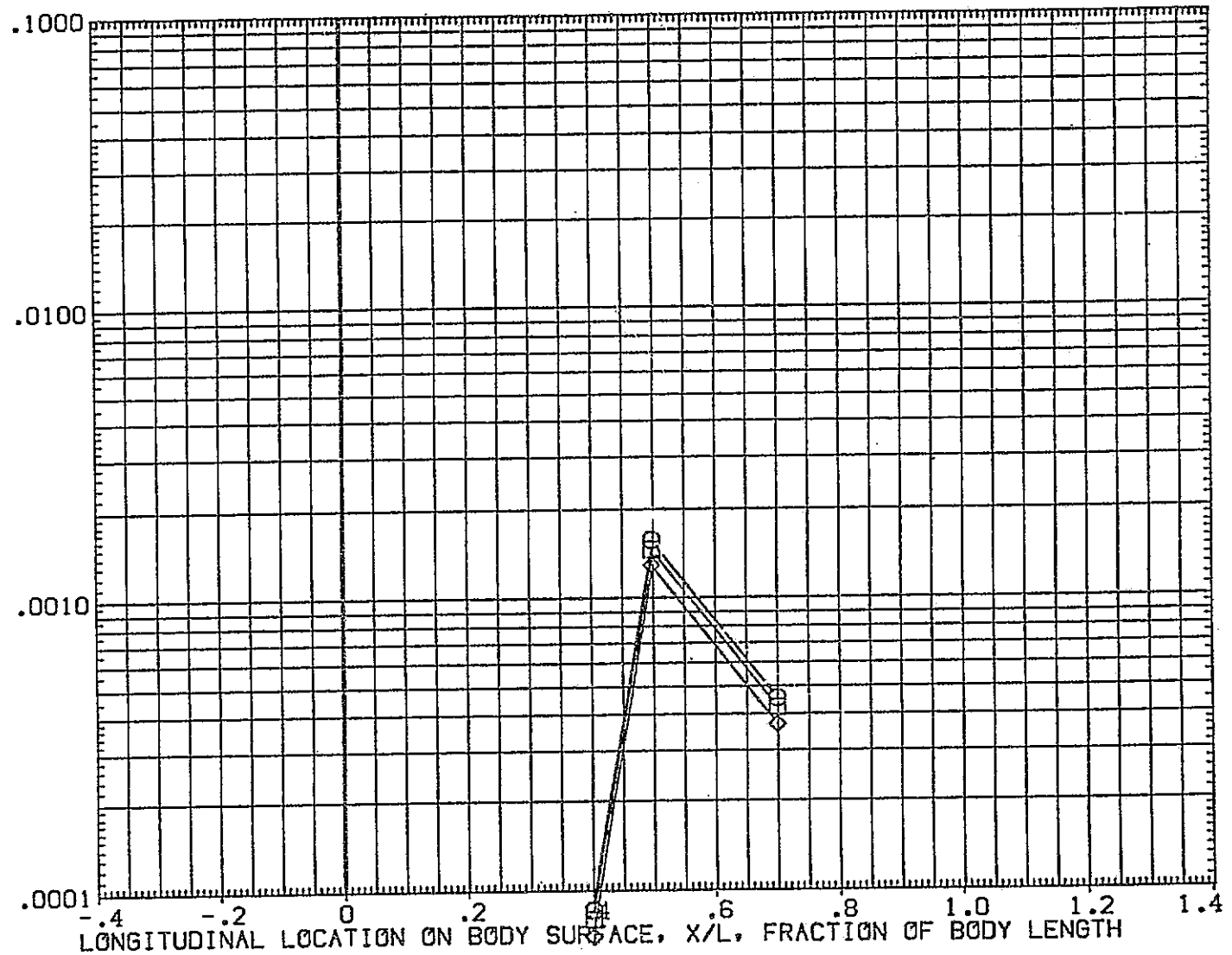


FIG 10 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS OFF

IH19 B22C7F5M4V7W111 T8 ORBITER UPPER FUSELAGE (RQEU03)

SYMBOL	HAW/HT	Z(WL)	ALPHA
◇	.850	425.000	5.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
HACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$

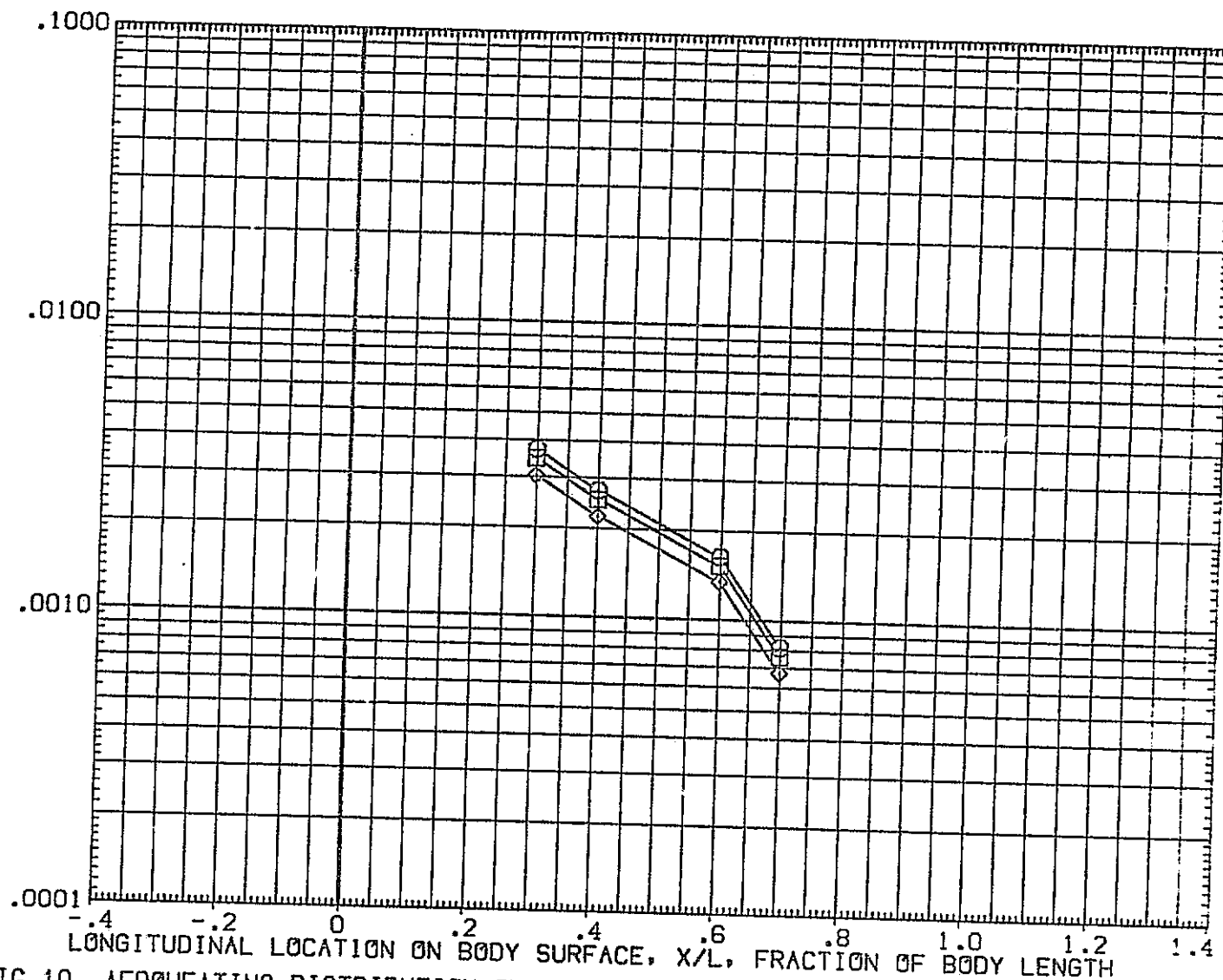


FIG 10 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS OFF

# IH19 B22C7F5M4V7W111 T8 ORBITER UPPER FUSELAGE (RQEU03)

SYMBOL	HAW/HT	Z(WL)	ALPHA
◇	.850	501.000	5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	DELTAH	.175
MACH	19.800		

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $h/h_{REF}$

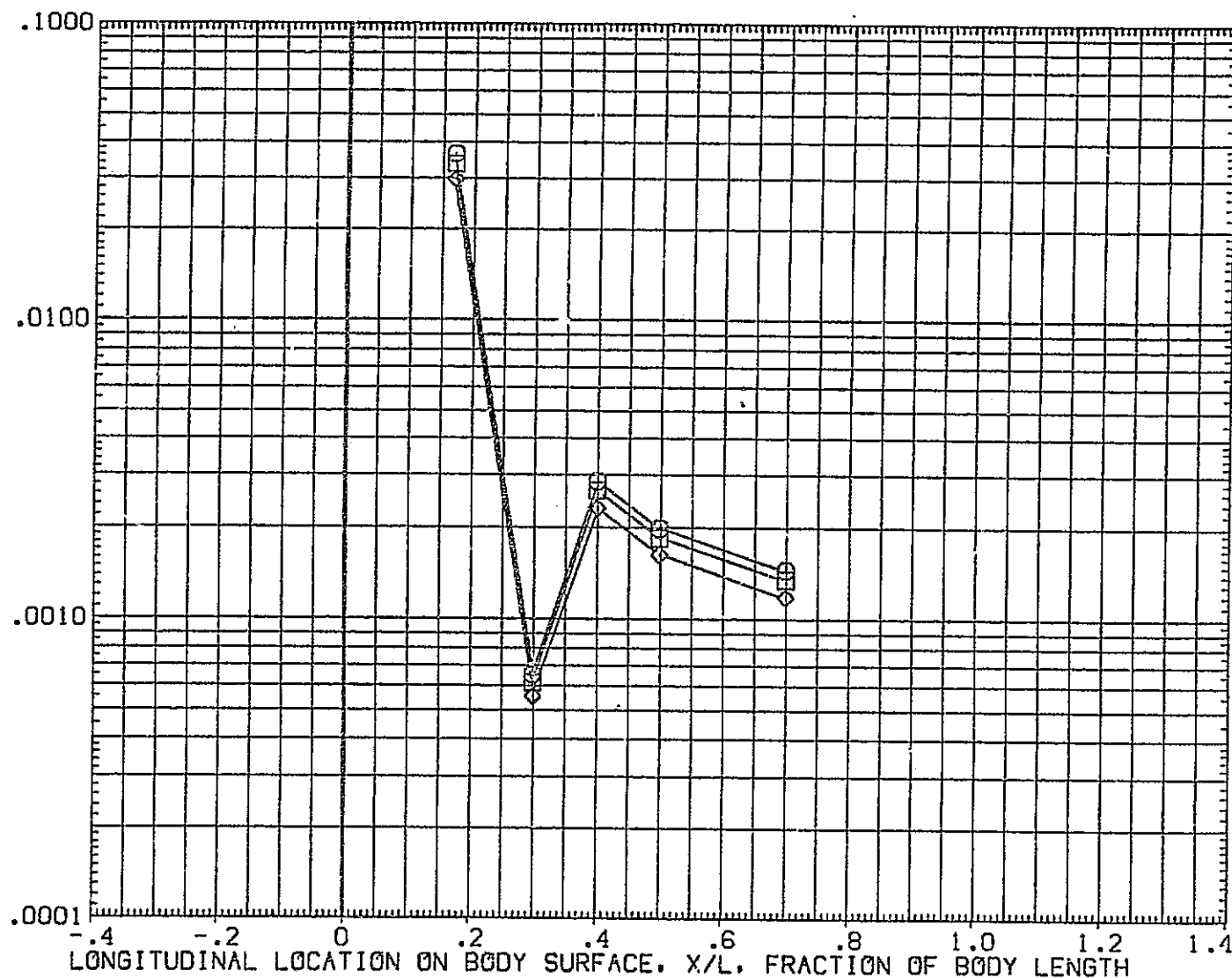


FIG 10 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS OFF

IH19 B22C7F5M4V7W111 T8 ORBITER UPPER FUSELAGE (RQEU03)

SYMBOL	HAW/HT	Z(WL)	ALPHA
○	.850	375.000	10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
MACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

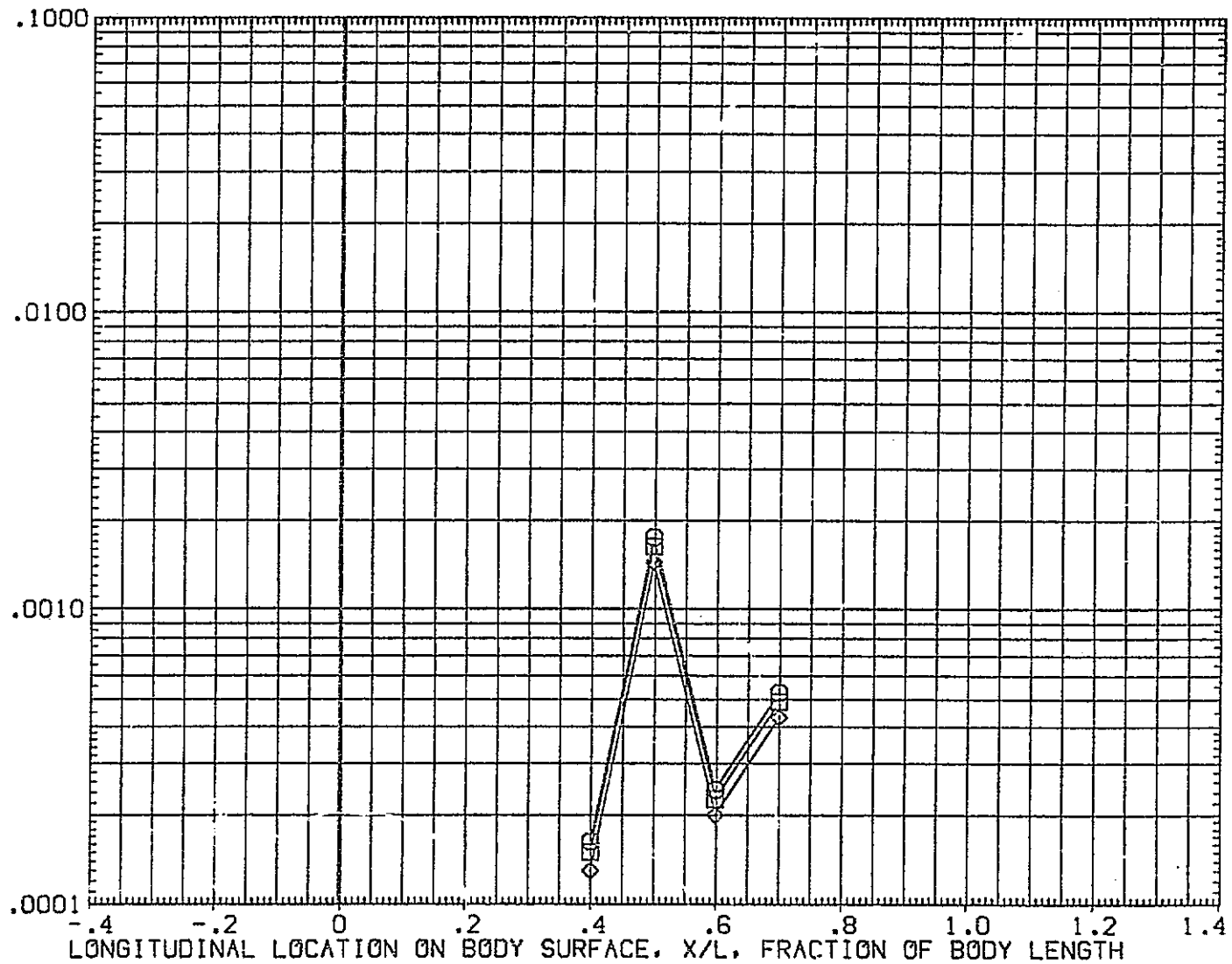


FIG 10 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS OFF

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

# IH19 B22C7F5M4V7W111 T8 ORBITER UPPER FUSELAGE (RQEU03)

SYMBOL	HAW/HT	Z(WL)	ALPHA
□	.850	425.000	10.000
◇	.900		
	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	DELTAH	.175
MACH	19.800		

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

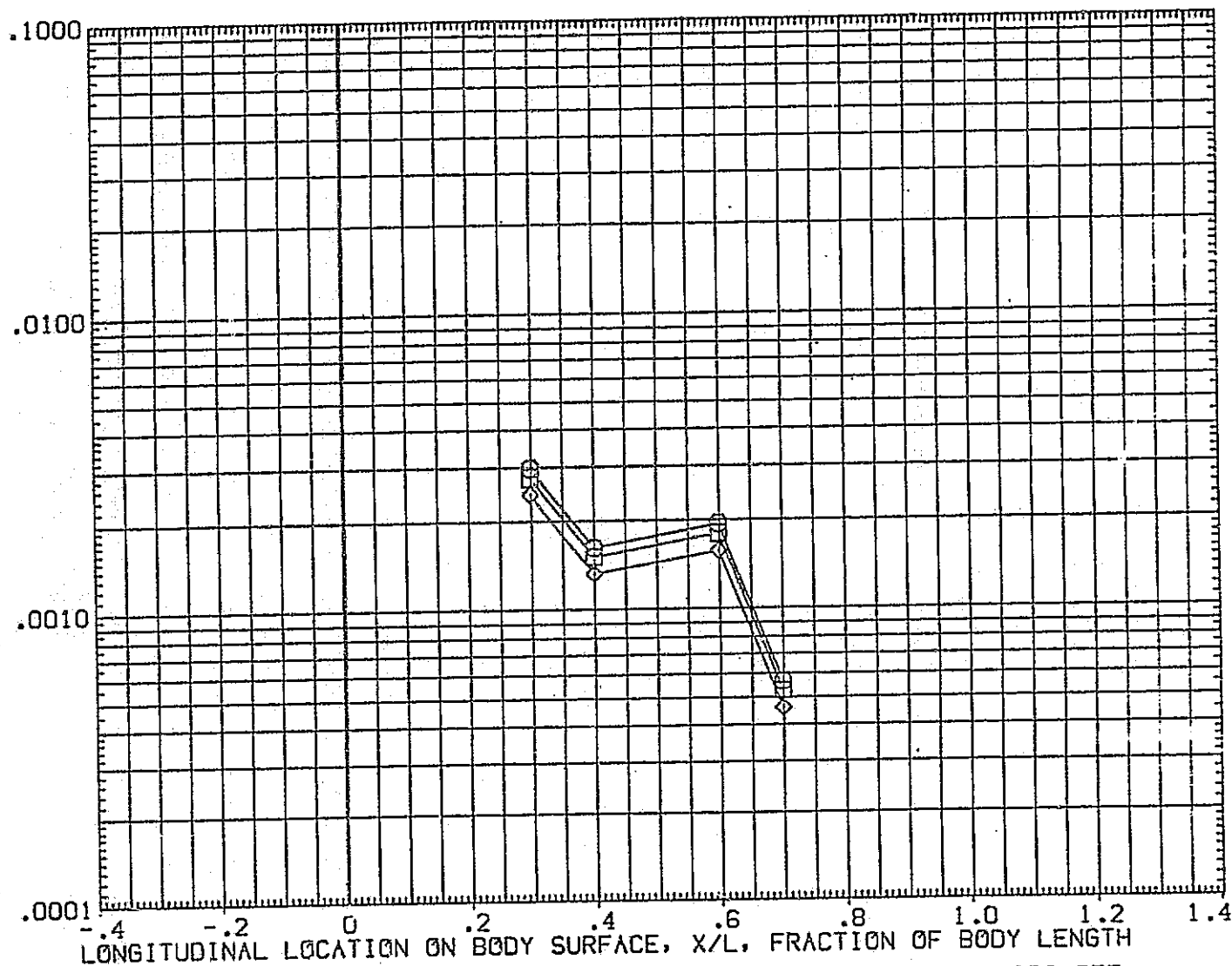


FIG 10 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS OFF



SYMBOL	HAW/HT	Z(WL)	ALPHA
◇	.850	501.000	10.000
□	.900		
	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	DELTAH .175
MACH	19.800	

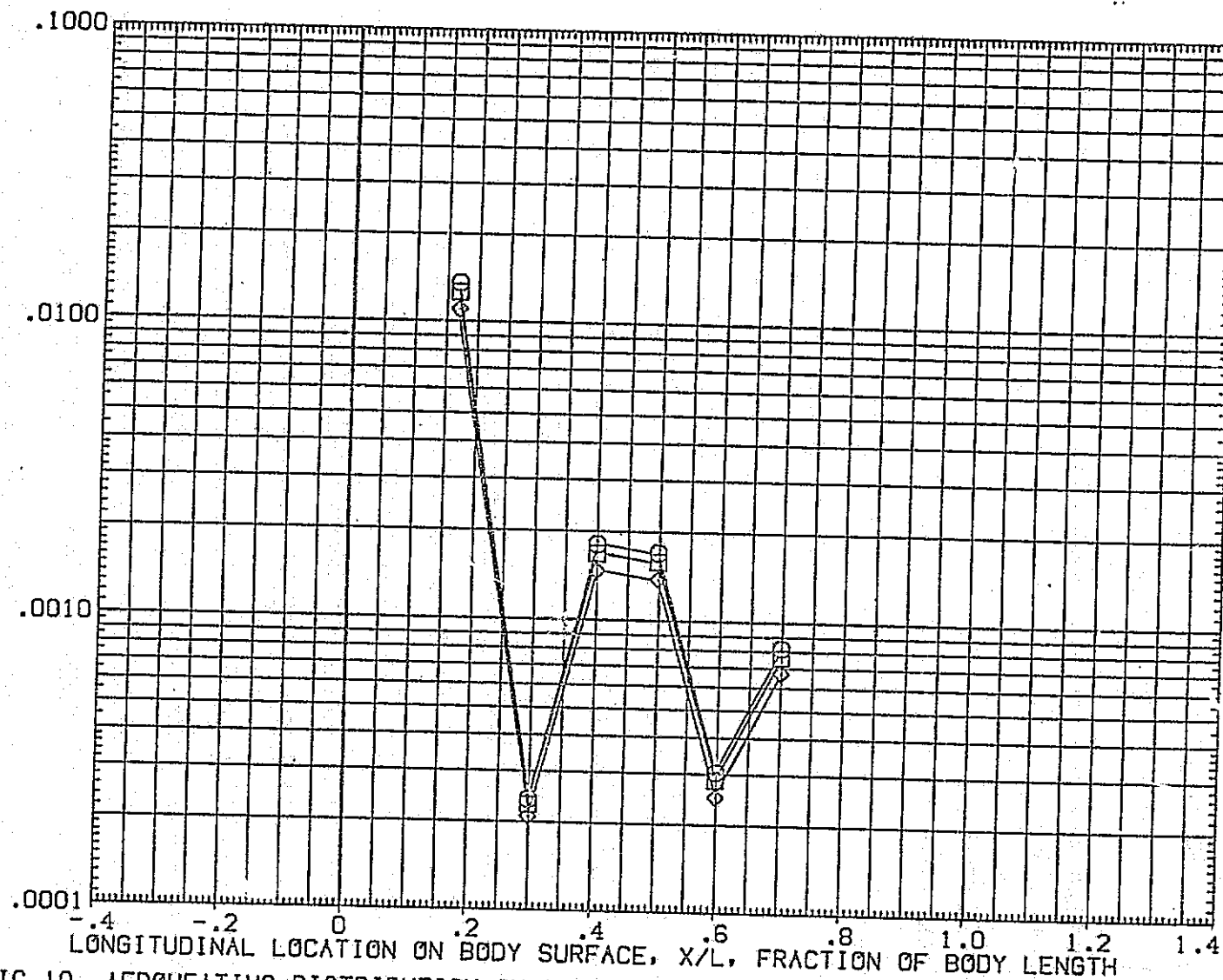
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 10 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS OFF

# IH19 RATIO (ORB+TANK)/ORB ORBITER UPPER FUSELAGE (DQEU03)

SYMBOL	HAW/HT	Z(WL)	ALPHA
◇	.850	375.000	-10.000
□	.900		
□	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF., HI/HU

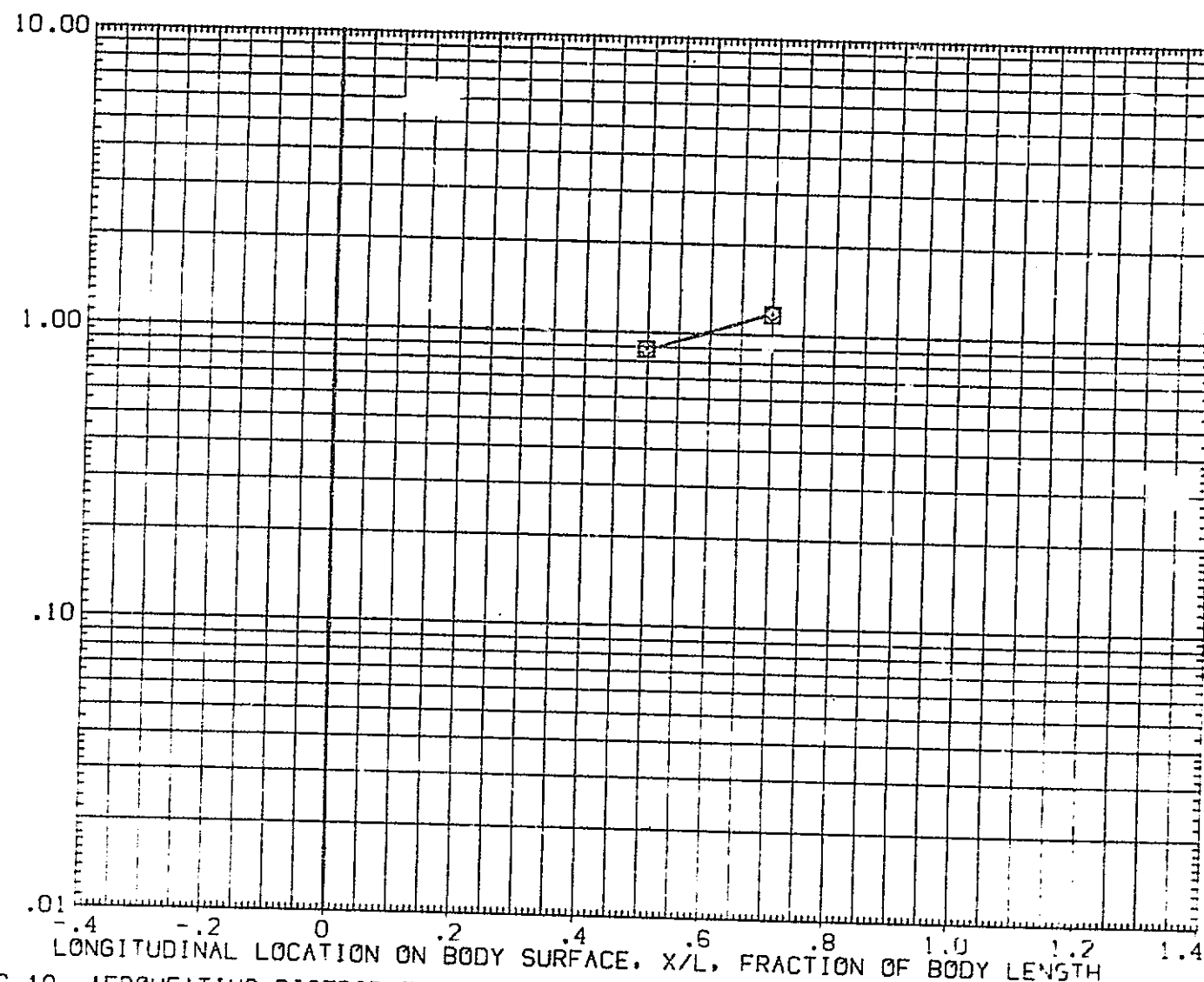


FIG 10 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS OFF

# IH19 RATIO (ORB+TANK)/ORB ORBITER UPPER FUSELAGE (DGEU03)

SYMBOL	HAW/HT	Z(WL)	ALPHA
○	.850	425.000	-10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	MACH	19.300

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.. HI/HU

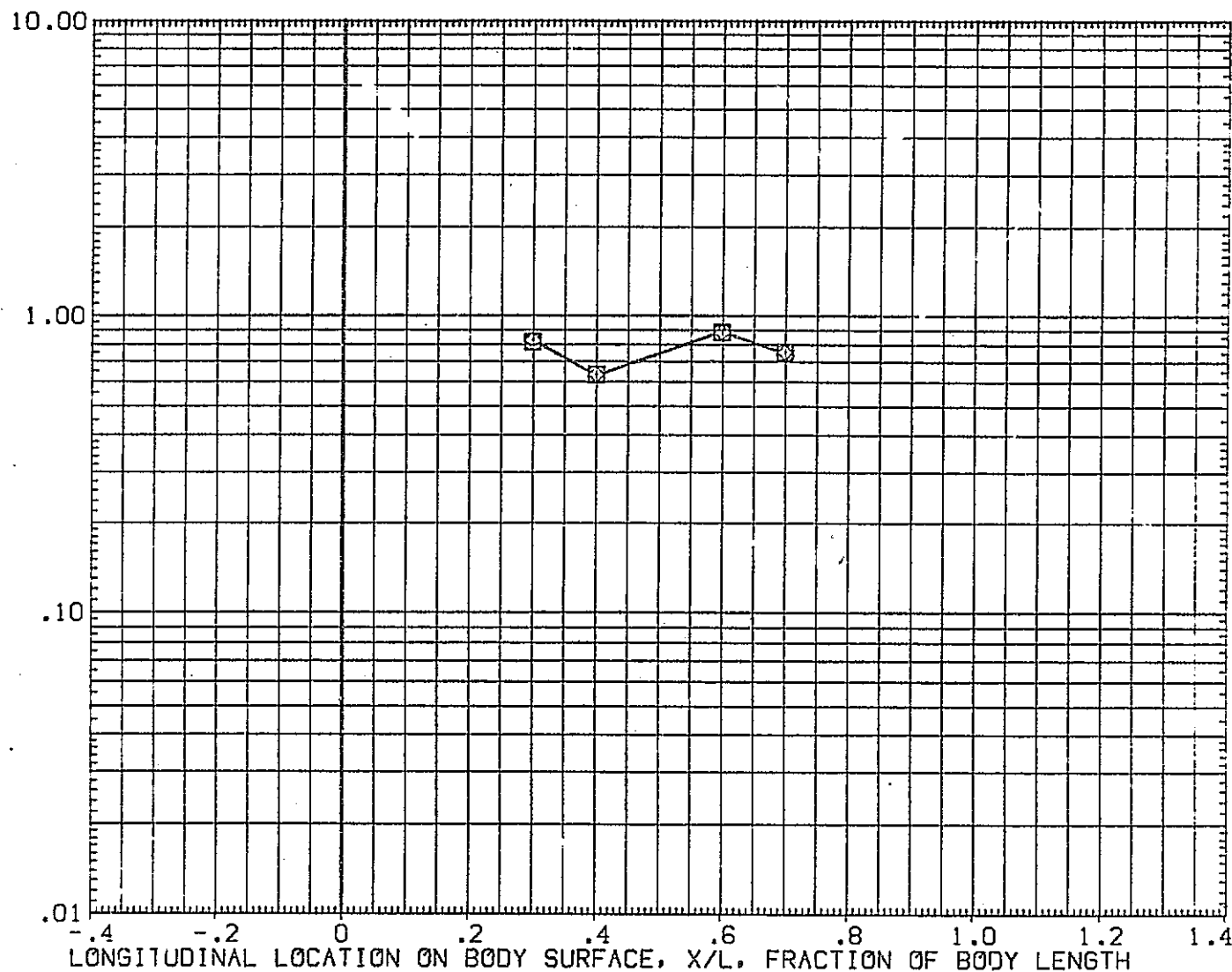


FIG 10 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS OFF

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

# IH19 RATIO (ORB+TANK)/ORB ORBITER UPPER FUSELAGE (DQEU03)

SYMBOL	HAW/HT	Z(WL)	ALPHA
○	.850	501.000	-10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.000	MACH	19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF., HI/HU

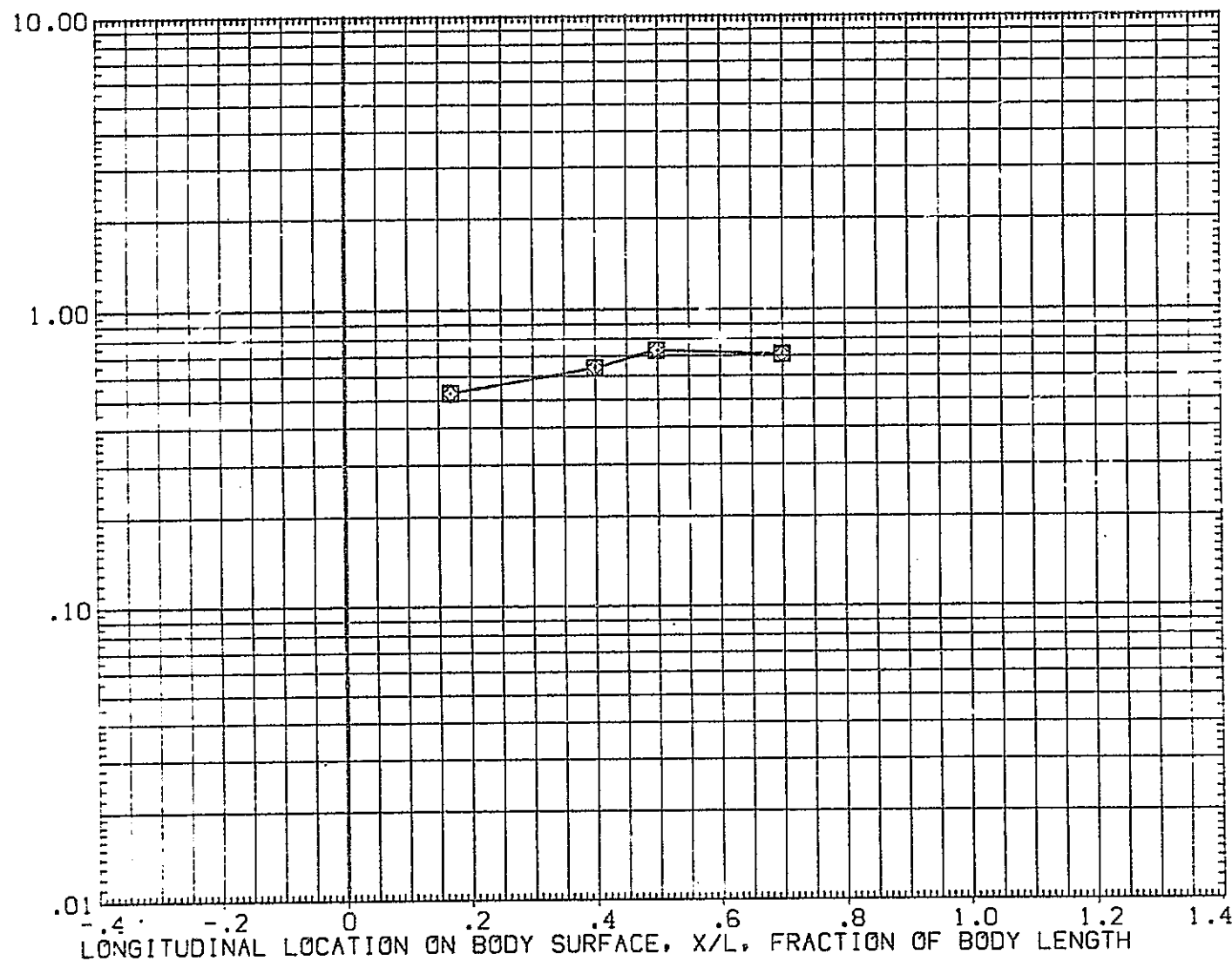


FIG 10 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS OFF

# IH19 RATIO (ORB+TANK)/ORB ORBITER UPPER FUSELAGE(DQEU03)

SYMBOL	HAW/HT	Z(WL)	ALPHA
◇	.850	375.000	-5.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	HACH 19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF., HI/HU

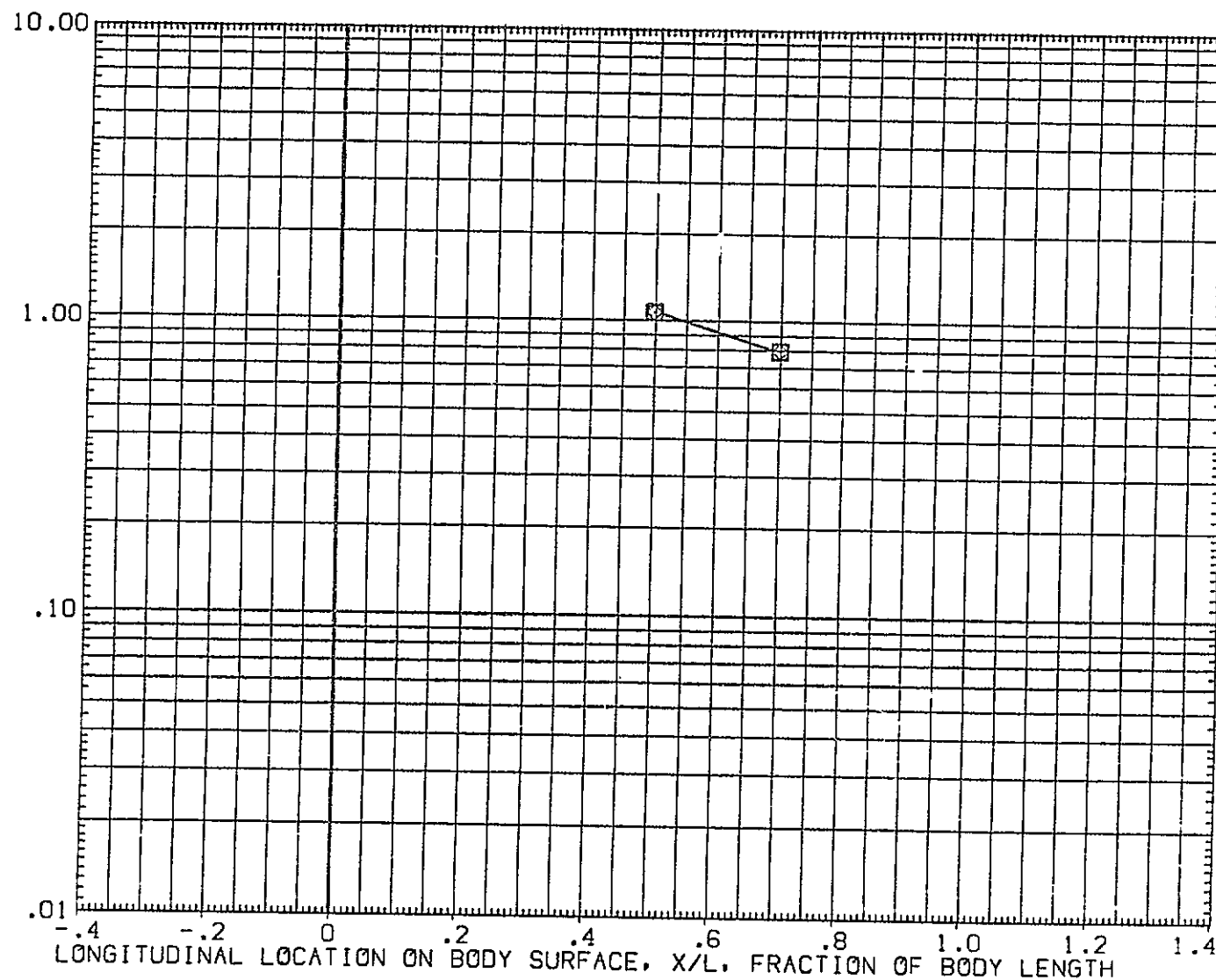


FIG 10 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS OFF

# IH19 RATIO (ORB+TANK)/ORB ORBITER UPPER FUSELAGE (DQEU03)

SYMBOL	HAW/HT	Z(CWL)	ALPHA
○	.950	425.000	-5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $H_i/H_u$

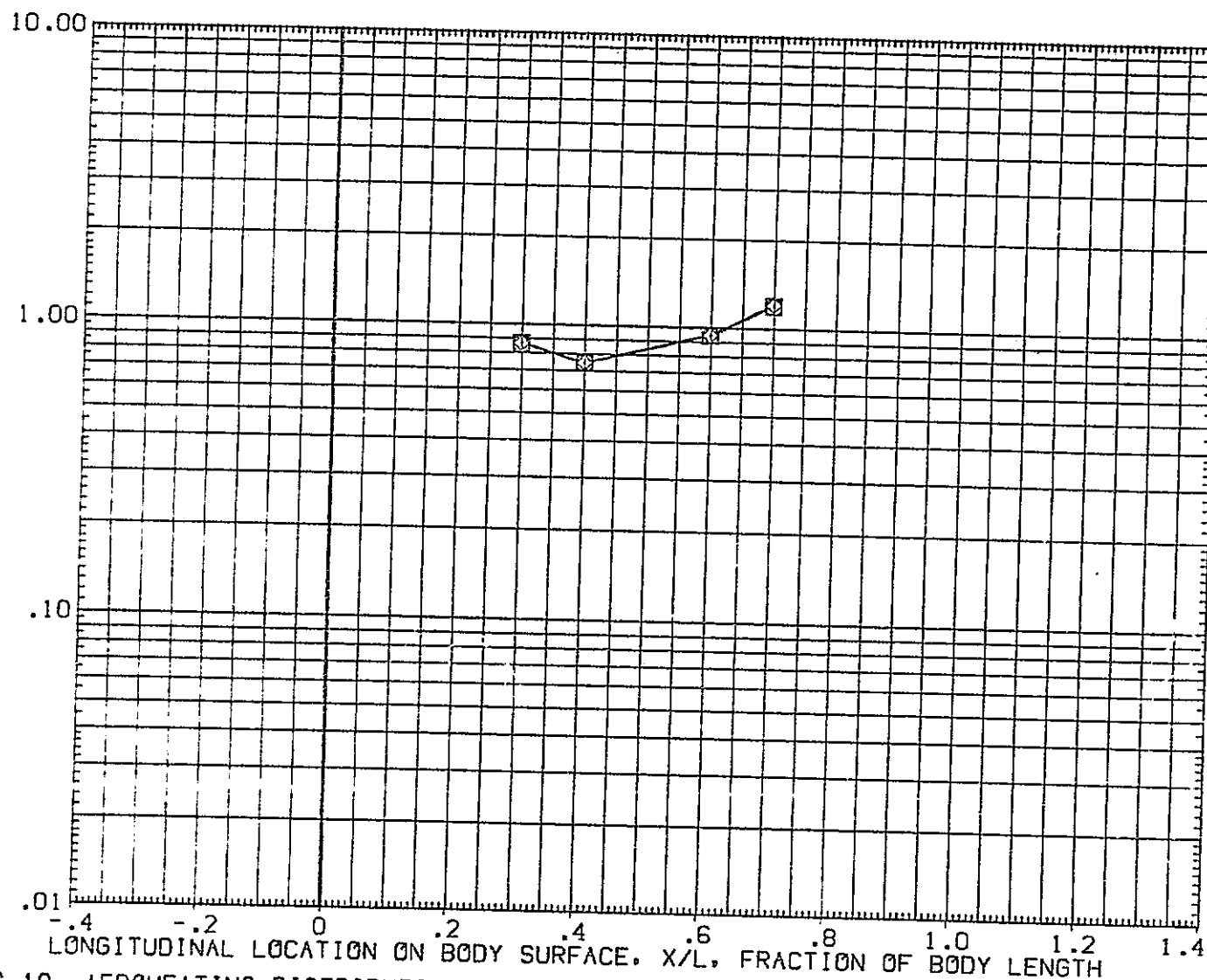


FIG 10 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS OFF

# IH19 RATIO (ORB+TANK)/ORB ORBITER UPPER FUSELAGE (DQEU03)

SYMBOL	HAW/HT	Z(WL)	ALPHA
◇	.850	501.000	-5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $H_i/H_u$

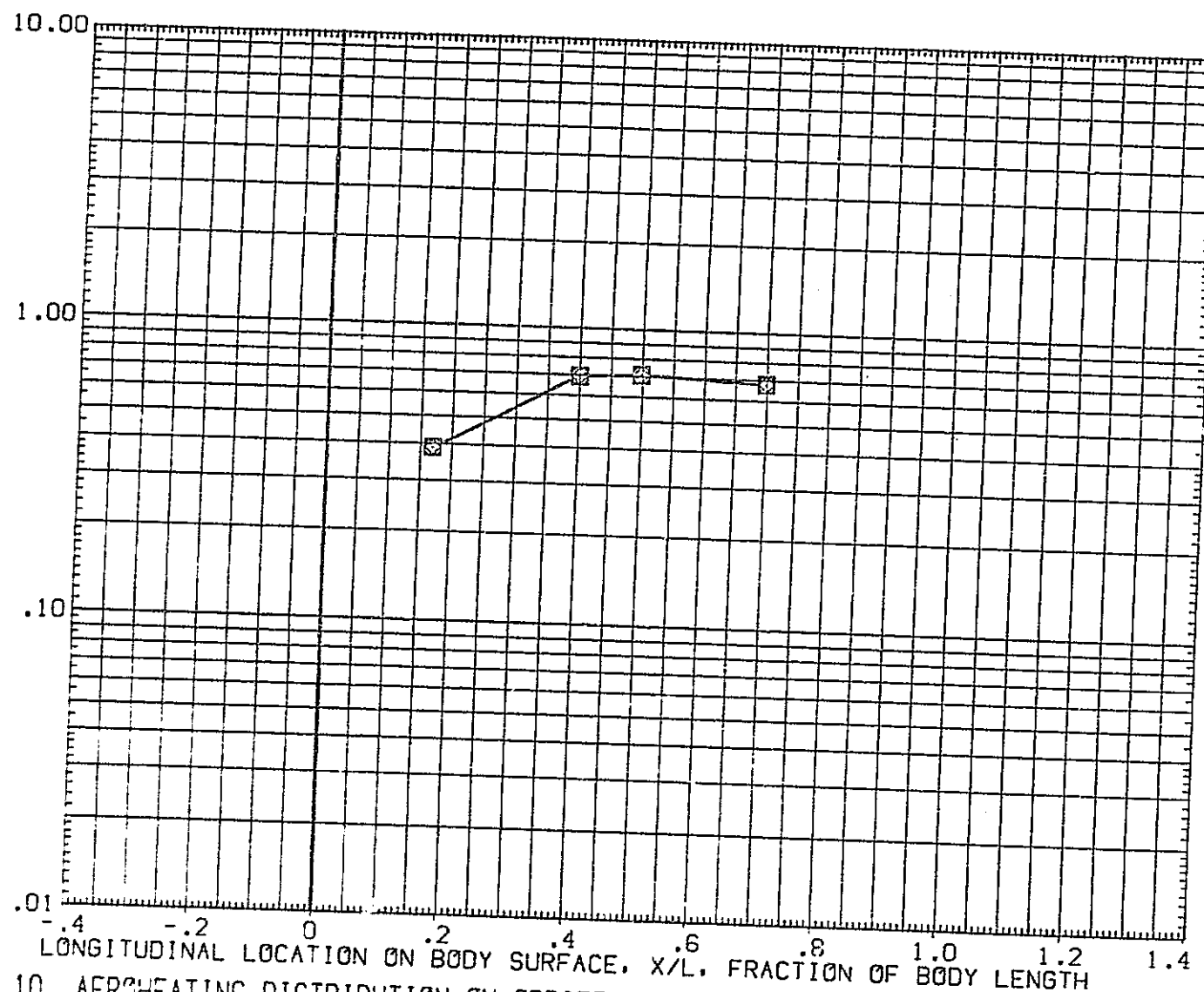


FIG 10 AERHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS OFF

# IH19 RATIO (ORB+TANK)/ORB ORBITER UPPER FUSELAGE (DQEU03)

SYMBOL	HAW/HT	Z(WL)	ALPHA
◇	.850	375.000	.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.  $H_i/H_u$

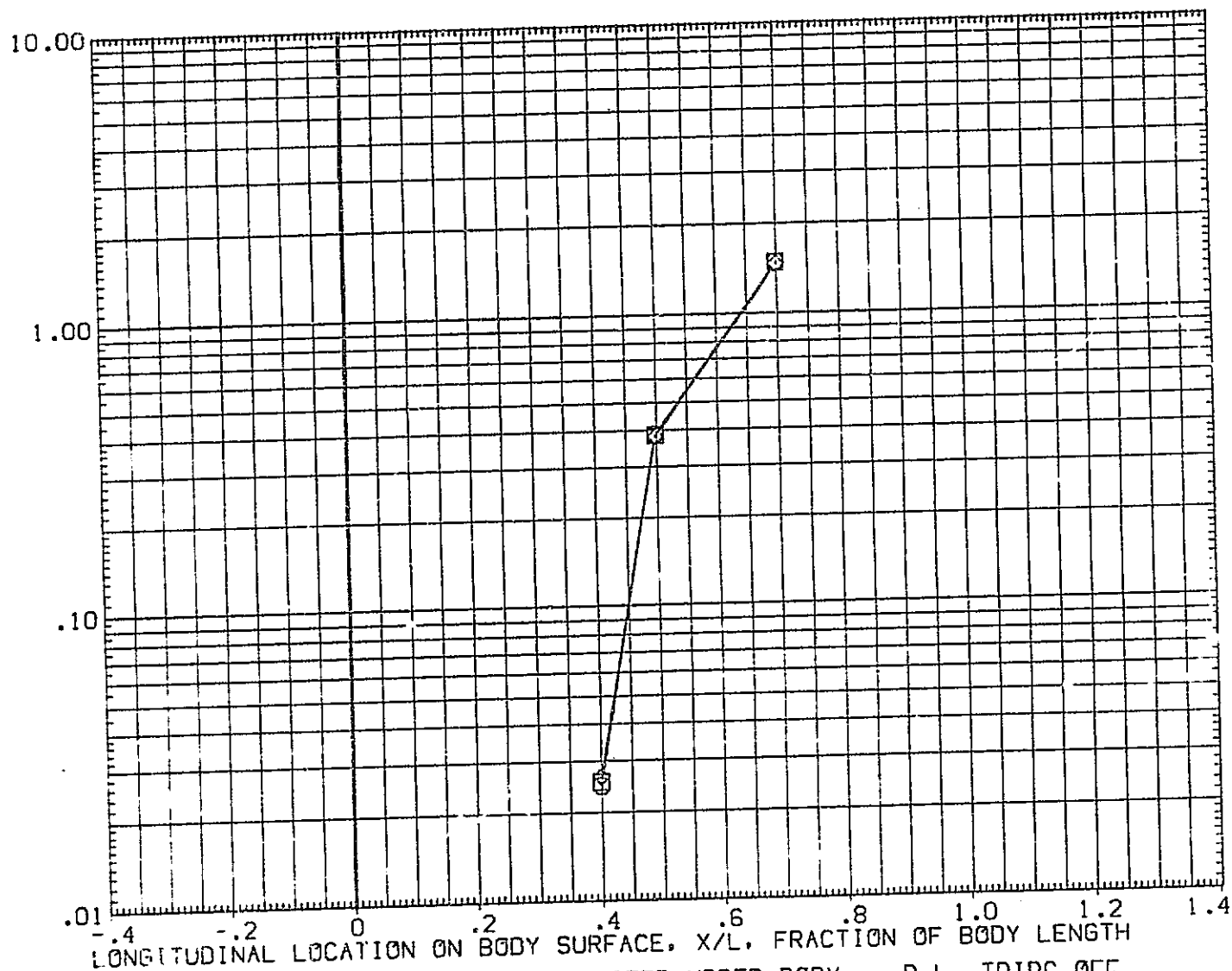


FIG 10 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS OFF



# IH19 RATIO (ORB+TANK)/ORB ORBITER UPPER FUSELAGE (DQEU03)

SYMBOL	HAW/HT	Z(WL)	ALPHA	BETA	PARAMETRIC VALUES	RN/L	.500
○	.850	501.000	.000	BLTRIP	.000	HACH	19.800
□	.900						
◇	1.000						

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF., HI/HU

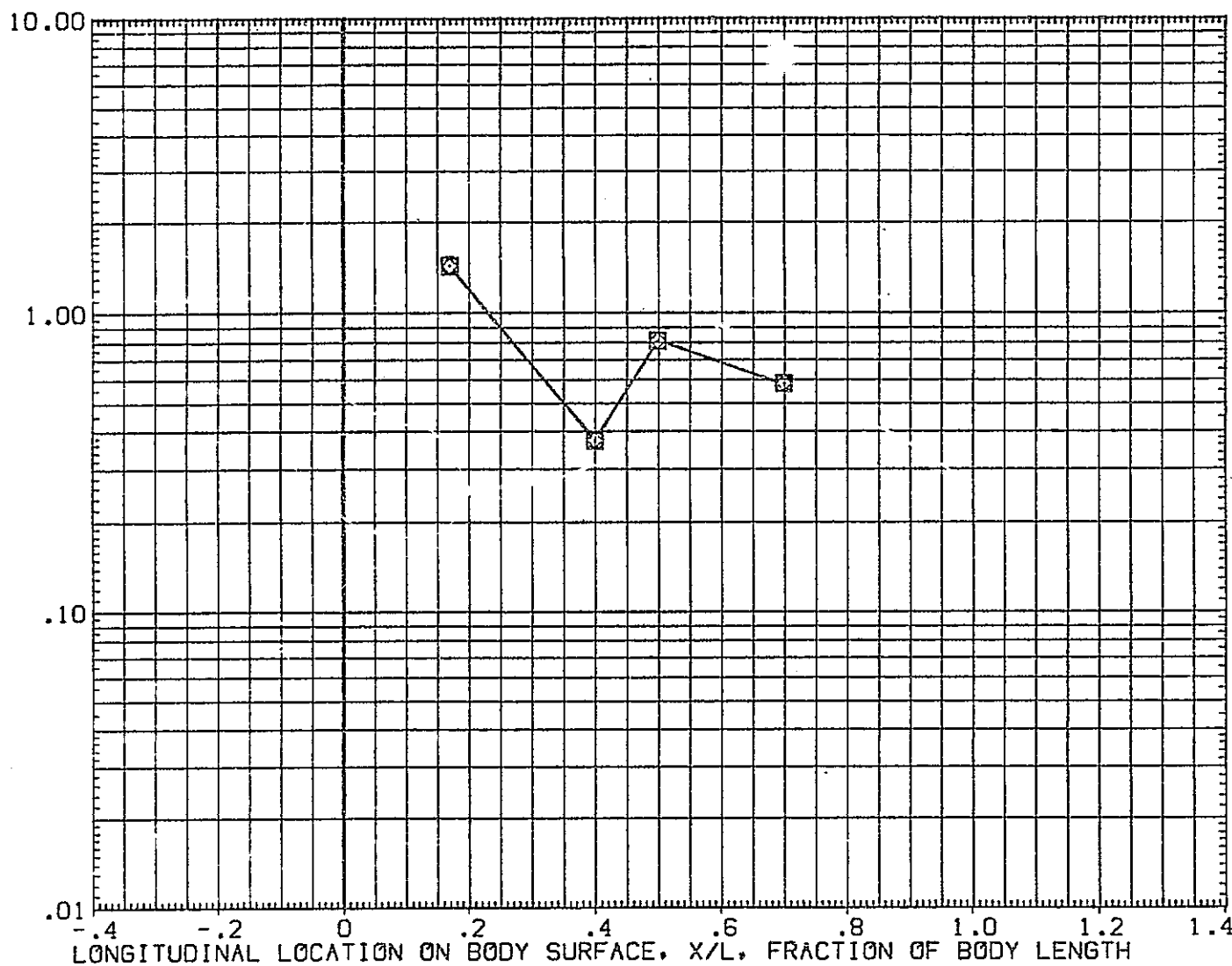


FIG 10 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS OFF

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ORIGINAL PAGE IS POOR

# 1H19 RATIO (ORB+TANK)/ORB ORBITER UPPER FUSELAGE (DQEU03)

SYMBOL	HAW/HT	Z(WL)	ALPHA
◇	.850	375.000	5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $H_i/H_u$

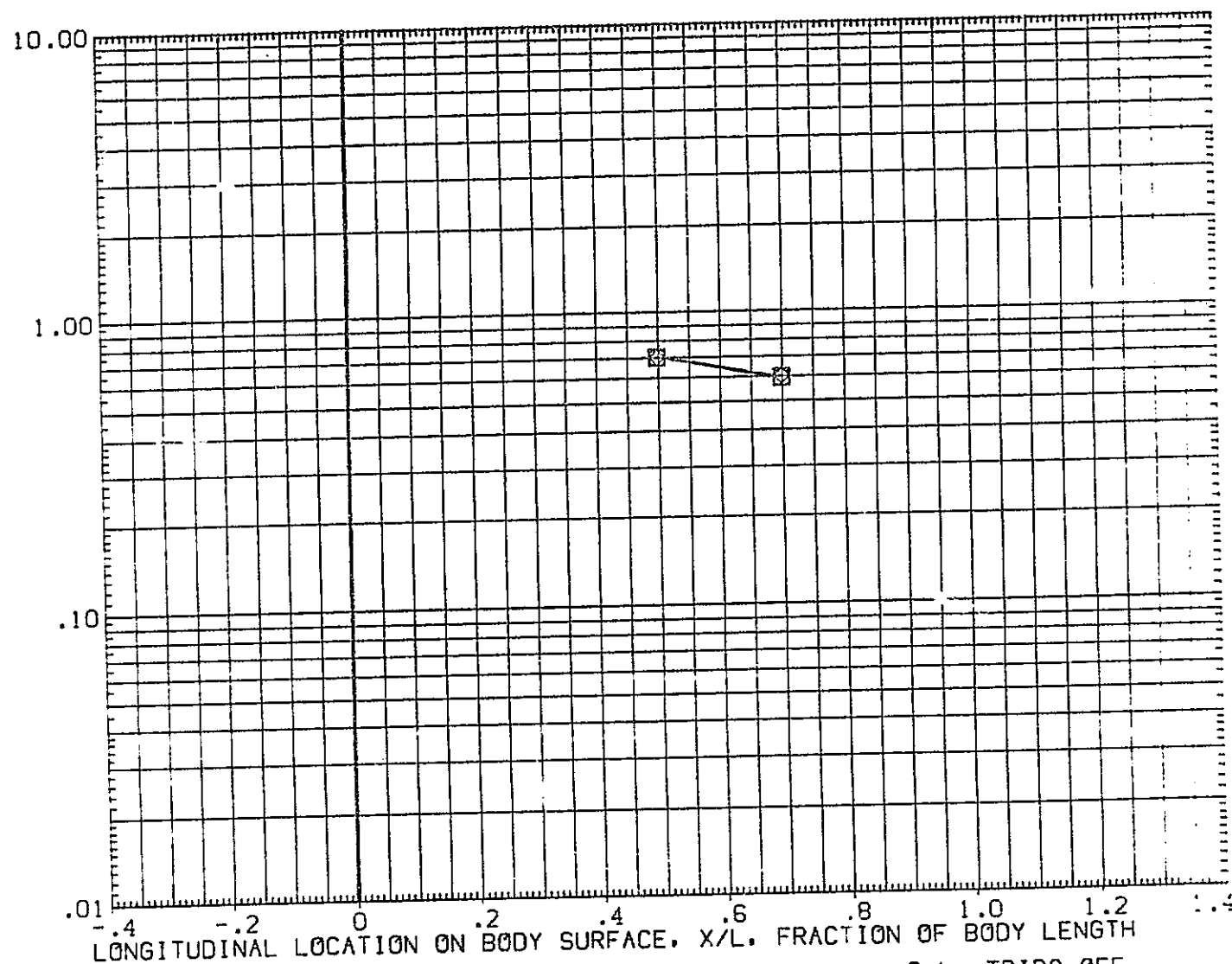


FIG 10 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS OFF

# IH19 RATIO (ORB+TANK)/ORB ORBITER UPPER FUSELAGE (DQEU03)

SYMBOL	HAW/HT	Z(WL)	ALPHA
◇	.850	425.000	5.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	PA/L .500
BLTRIP	.000	HACH 19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.. HI/HU

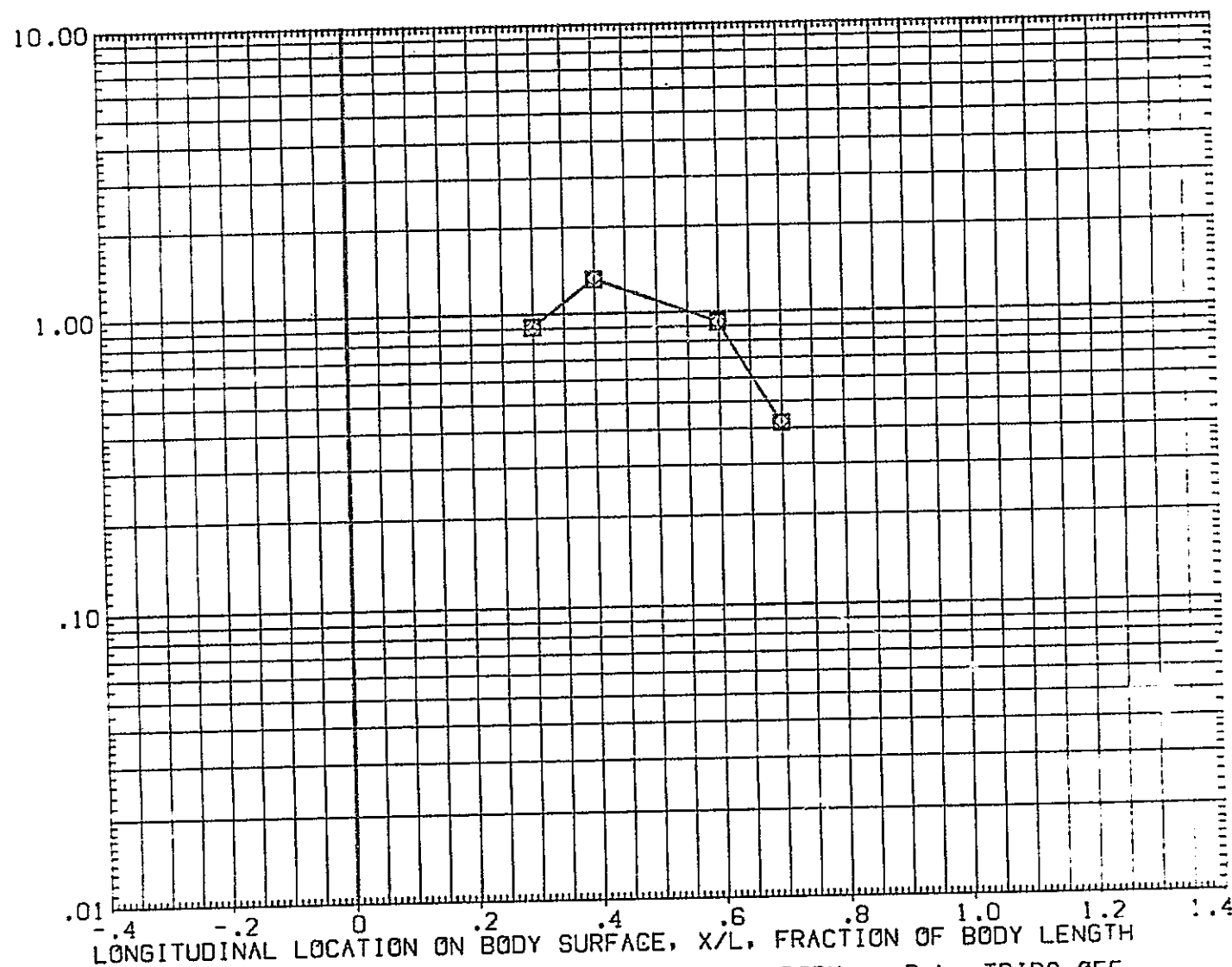


FIG 10 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS OFF

## IH19 RATIO (ORB+TANK)/ORB ORBITER UPPER FUSELAGE (DGEU03)

SYMBOL	HAW/HT	Z(WL)	ALPHA
◇	.850	501.000	5.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.300	RN/L .500
BLTRIP	.000	MACH 19.800

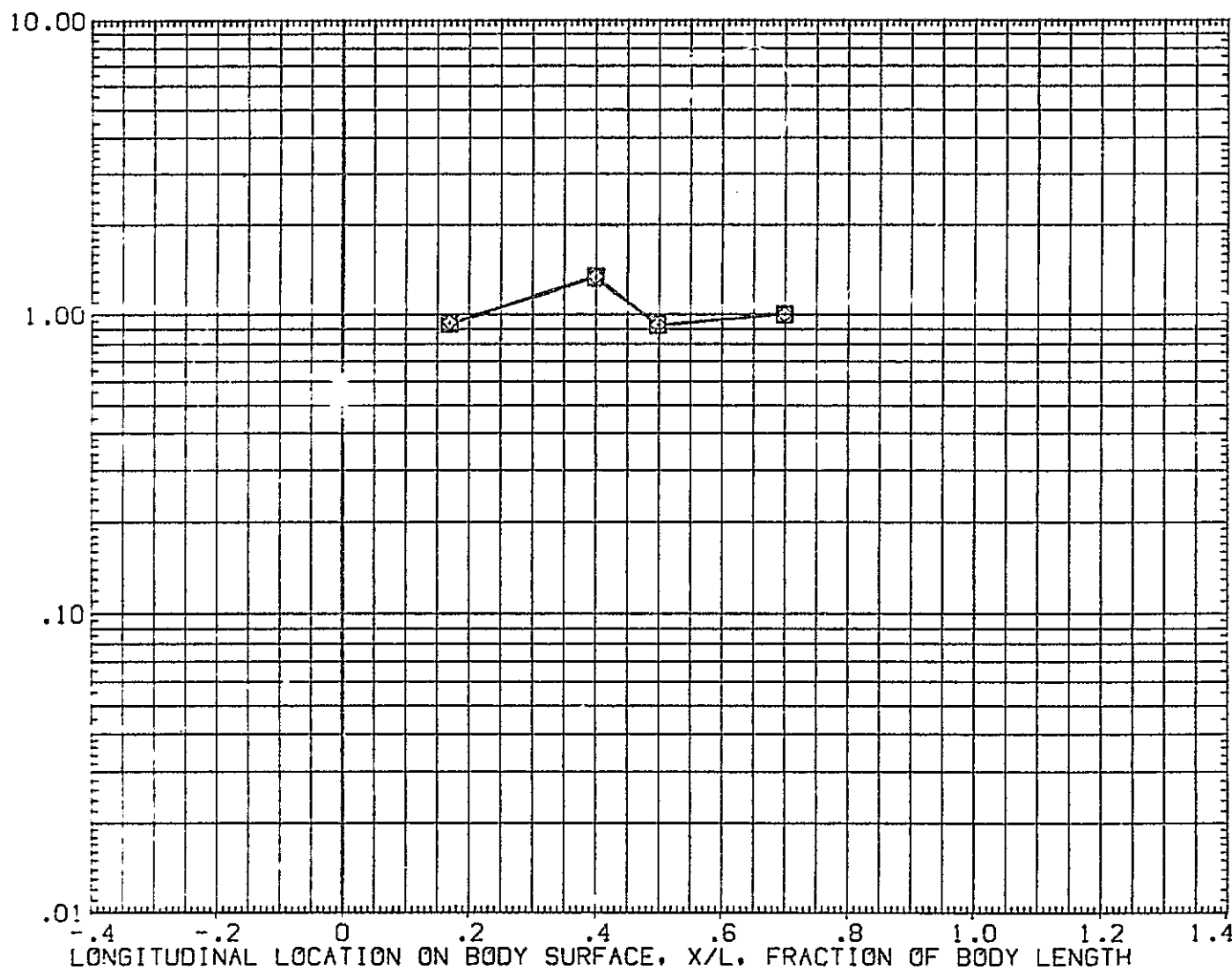
RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $H_i/H_u$ 

FIG 10 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS OFF

# IH19 RATIO (ORB+TANK)/ORB ORBITER UPPER FUSELAGE (DQEU03)

SYMBOL	HAW/HT	Z(WL)	ALPHA
○	.850	375.000	10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.000	MACH 19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.. HI/HU

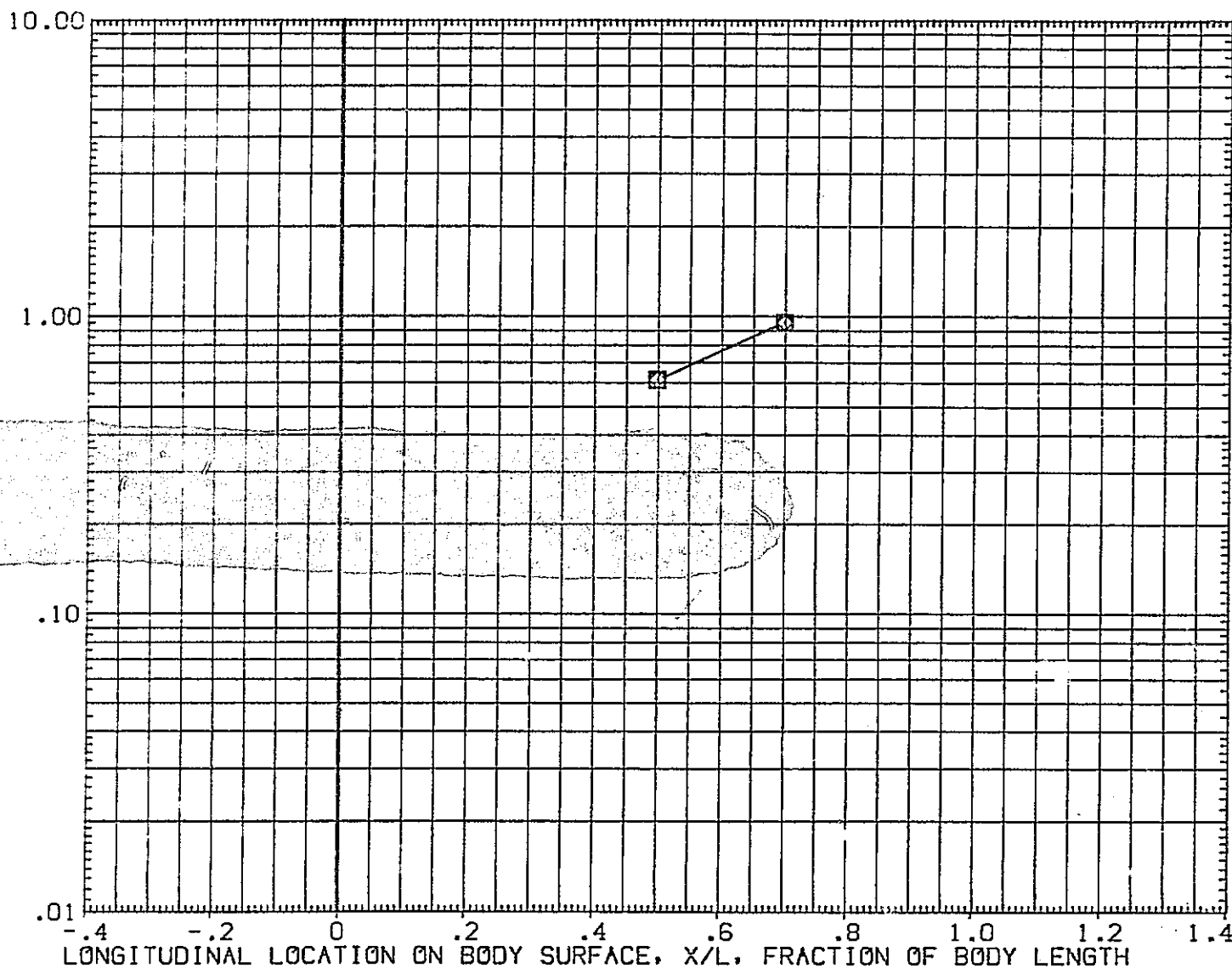


FIG 10 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS OFF

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

## IH19 RATIO (ORB+TANK)/ORB ORBITER UPPER FUSELAGE (DQEU03)

SYMBOL	HAW/HT	Z(WL)	ALPHA
◇	.850	425.000	10.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	QDD	RN/L
BLTRIP	.00	MACH
		19.800

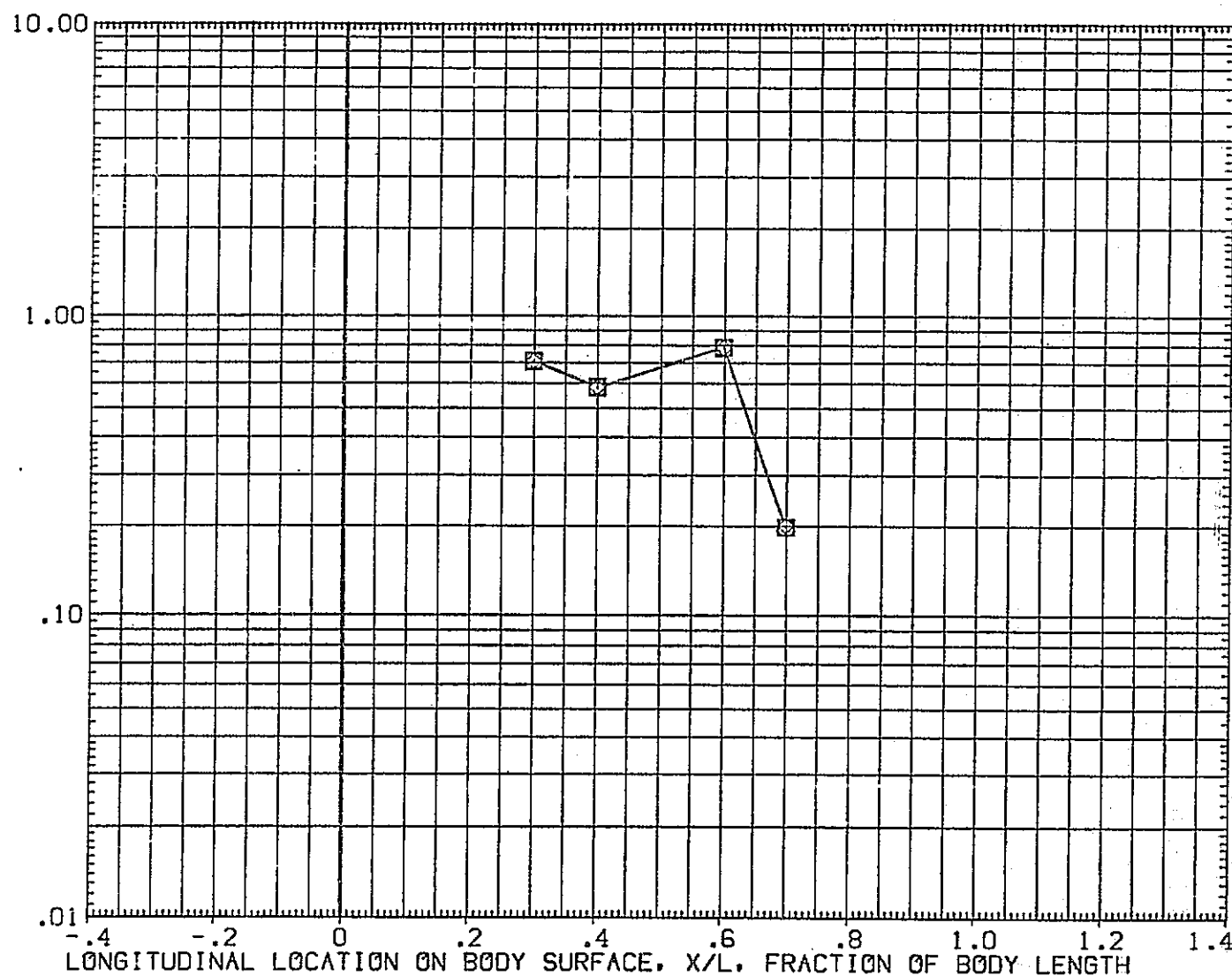
RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $H_i/H_u$ 

FIG 10 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS OFF

# IH19 RATIO (ORB+TANK)/ORB ORBITER UPPER FUSELAGE (DQEU03)

SYMBOL	HAW/HT	Z(WL)	ALPHA
○	.850	501.000	10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	FW/L	.500
BLTRIP	.000	SAC 1	5.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF..  $H_i/H_u$

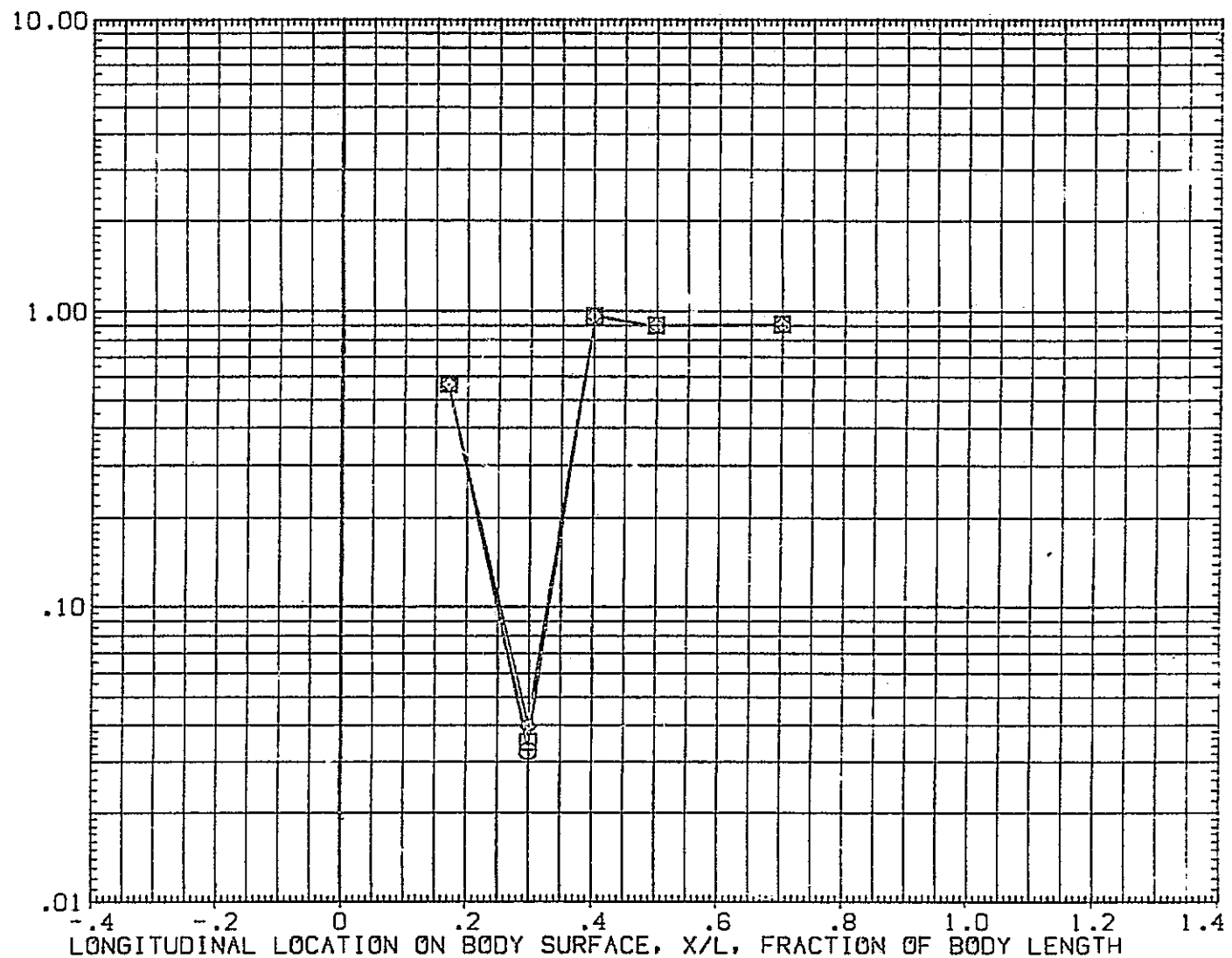


FIG 10 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS OFF

IH19 B22C7F5M4V7W111

ORBITER UPPER FUSELAGE (SQEU05)

SYMBOL	HAW/HT	Z(WL)	ALPHA
◇	.850	375.000	-10.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.L 10	RN/L
BLTRIP	.030	HACH
		.500
		19.000

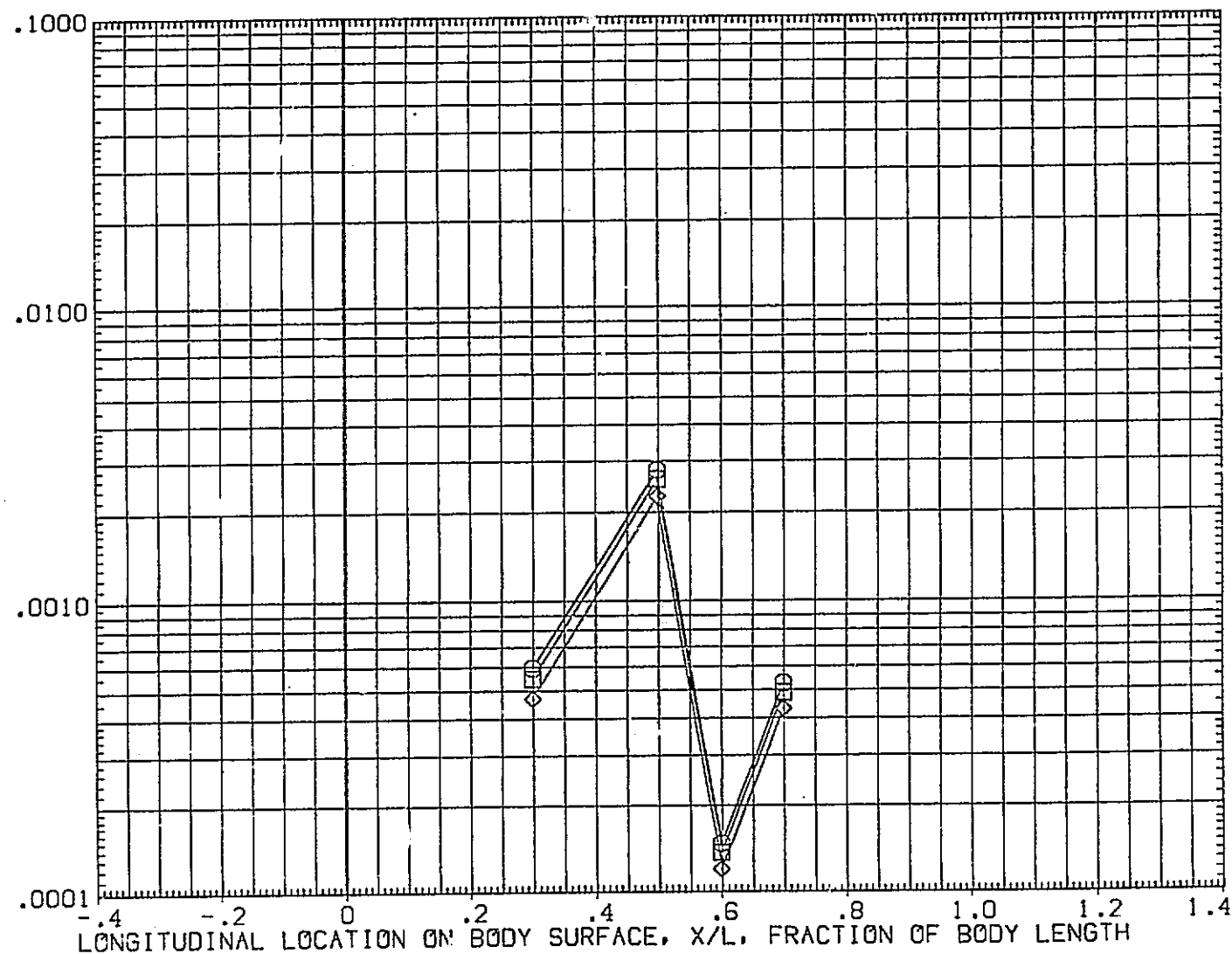
RATIO C<sub>f</sub> LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

FIG 11 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS ON



IH19 B22C7F5M4V7W111

OPBITER UPPER FUSELAGE (SQEU05)

SYMBOL	HAW/HT	Z(WL)	ALPHA
◇	.850	425.000	-10.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	MACH 19.800

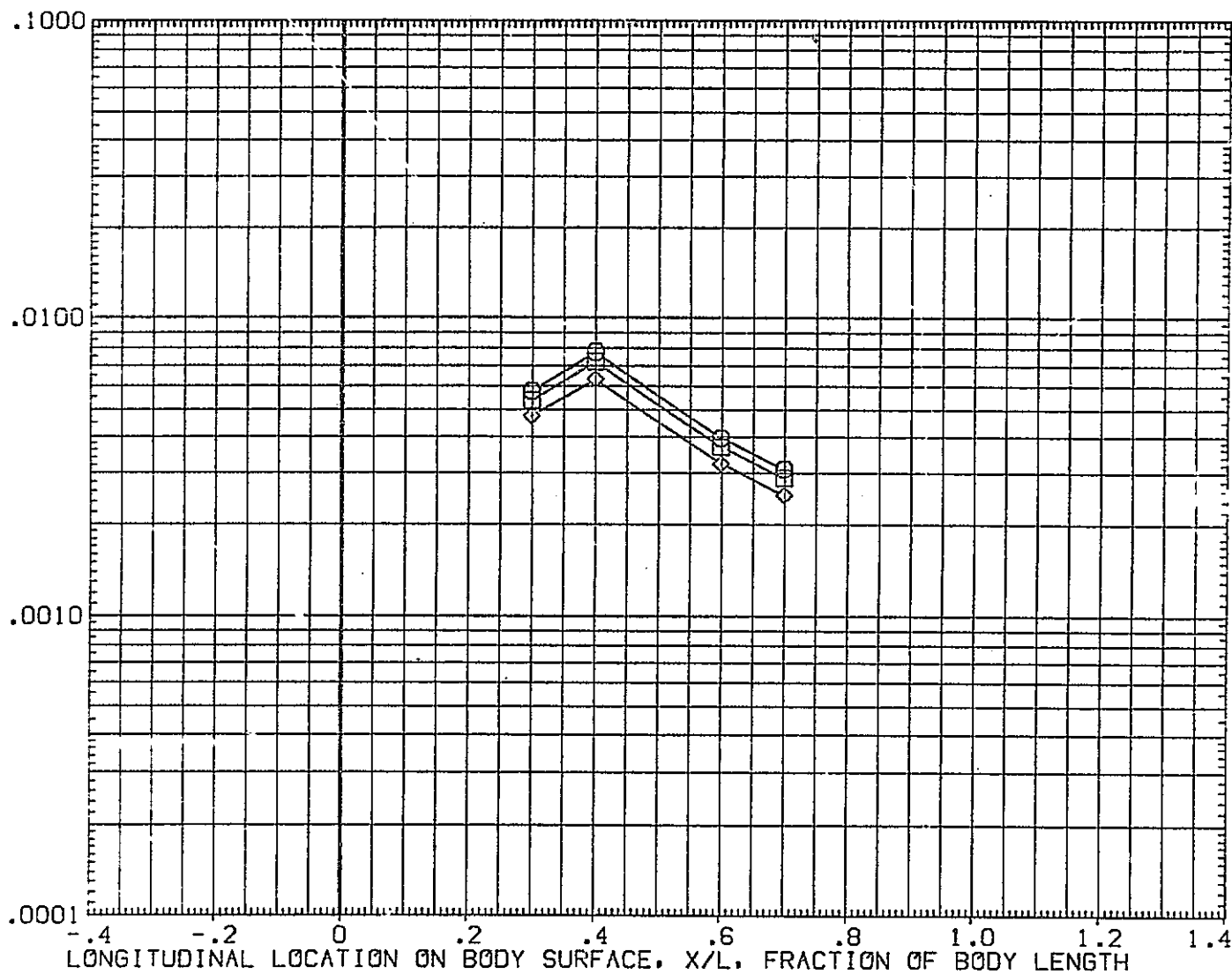
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 11 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS ON

SYMBOL	HAW/HT	Z(WL)	ALPHA
□	.850	501.000	-10.000
◇	.900		
	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.03C	HACH 19.800

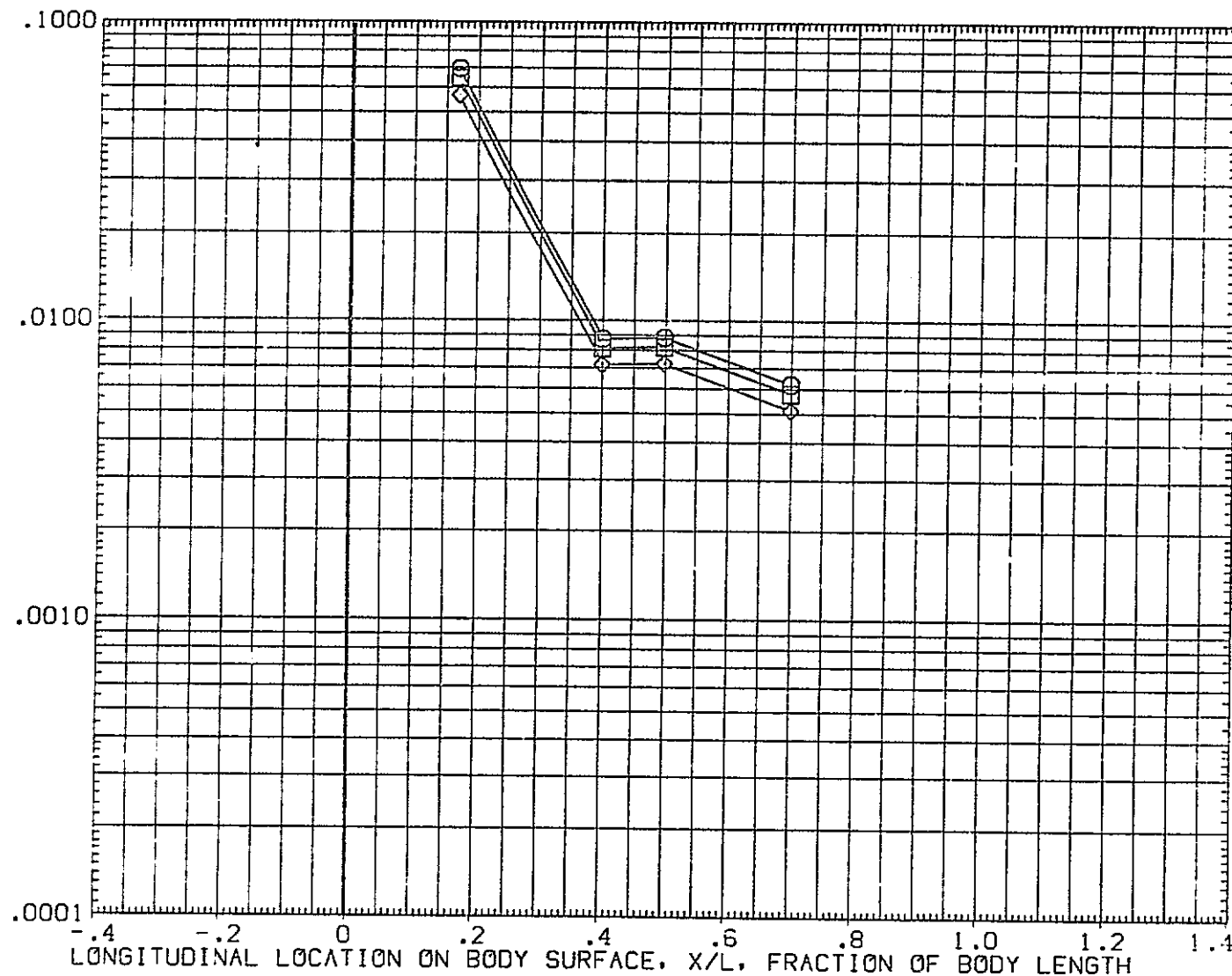
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $h/h_{REF}$ 

FIG 11 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS ON

IH19 B22C7F5M4V7W111

ORBITER UPPER FUSELAGE (SQEU05)

SYMBOL	HAW/HT	Z(WL)	ALPHA
□	.850	375.000	-5.000
◇	.900		
	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	MACH 19.800

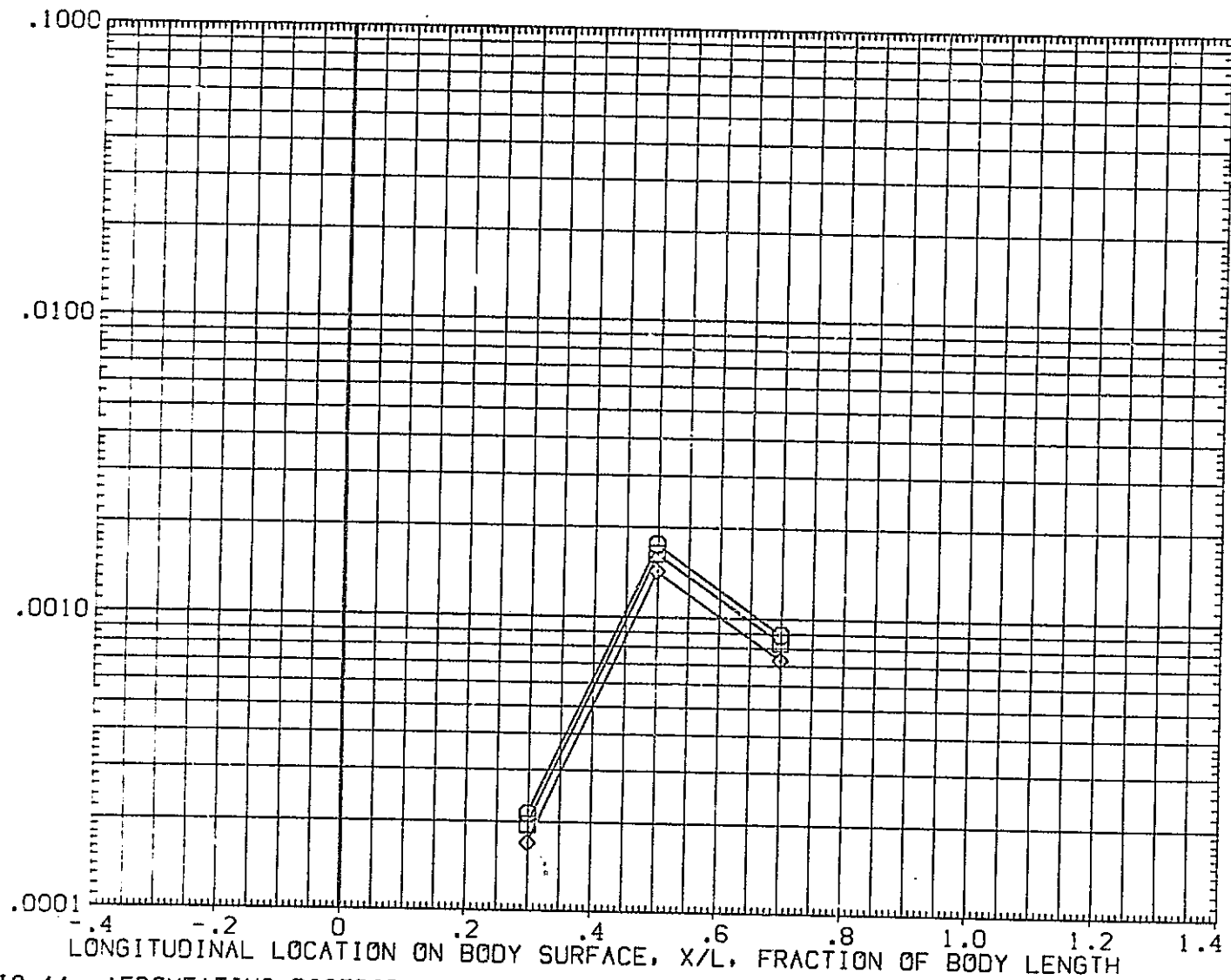
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 11 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS ON

IH19 B22C7F5M4V7W111

ORBITER UPPER FUSELAGE (SQEU05)

SYMBOL	HAW/HT	Z(WL)	ALPHA
○	.850	425.000	-5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L
BLTRIP	.030	MACH
		.500
		19.800

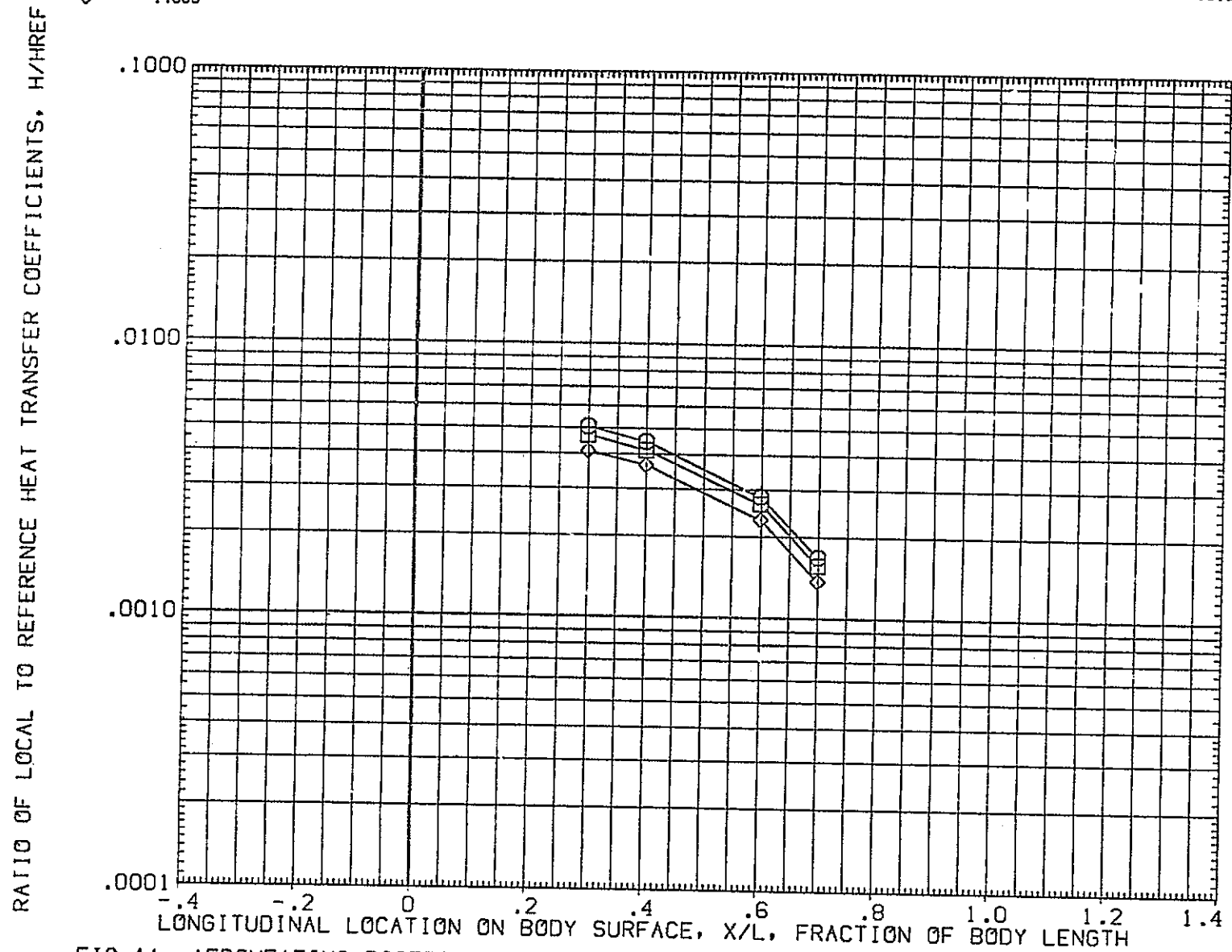


FIG 11 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS ON

IH19 B22C7F5M4V7W111

ORBITER UPPER FUSELAGE (SQEU05)

SYMBOL	HAW/HT	Z(WL)	ALPHA
□	.850	501.000	-5.000
◇	.900		
	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.030	HACH	19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

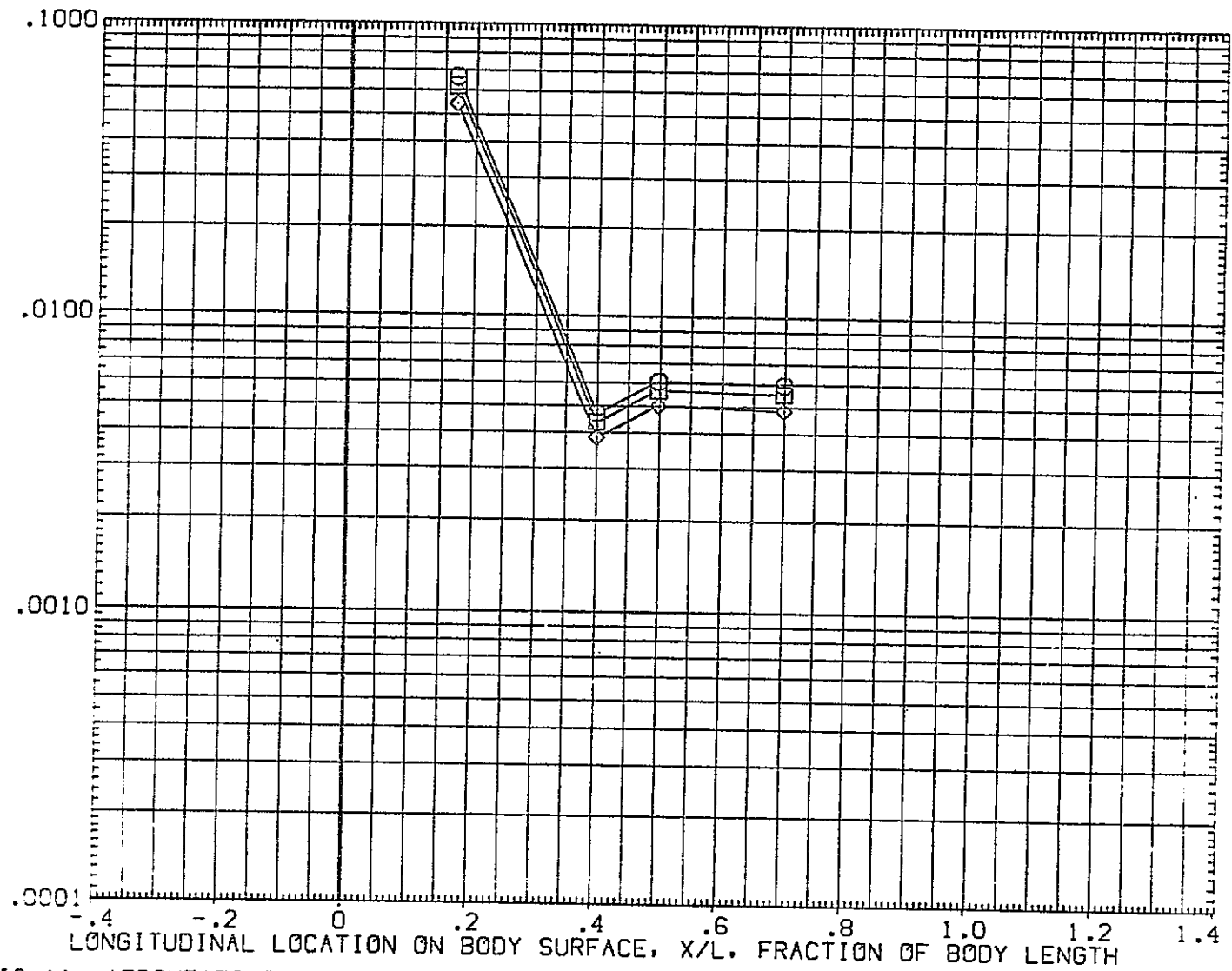


FIG 11: AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS ON

IH19 B22C7F5M4V7W111

ORBITER UPPER FUSELAGE (SQEU05)

SYMBOL	HAW/HT	Z(WL)	ALPHA
○	.850	375.000	.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	MACH 19.800

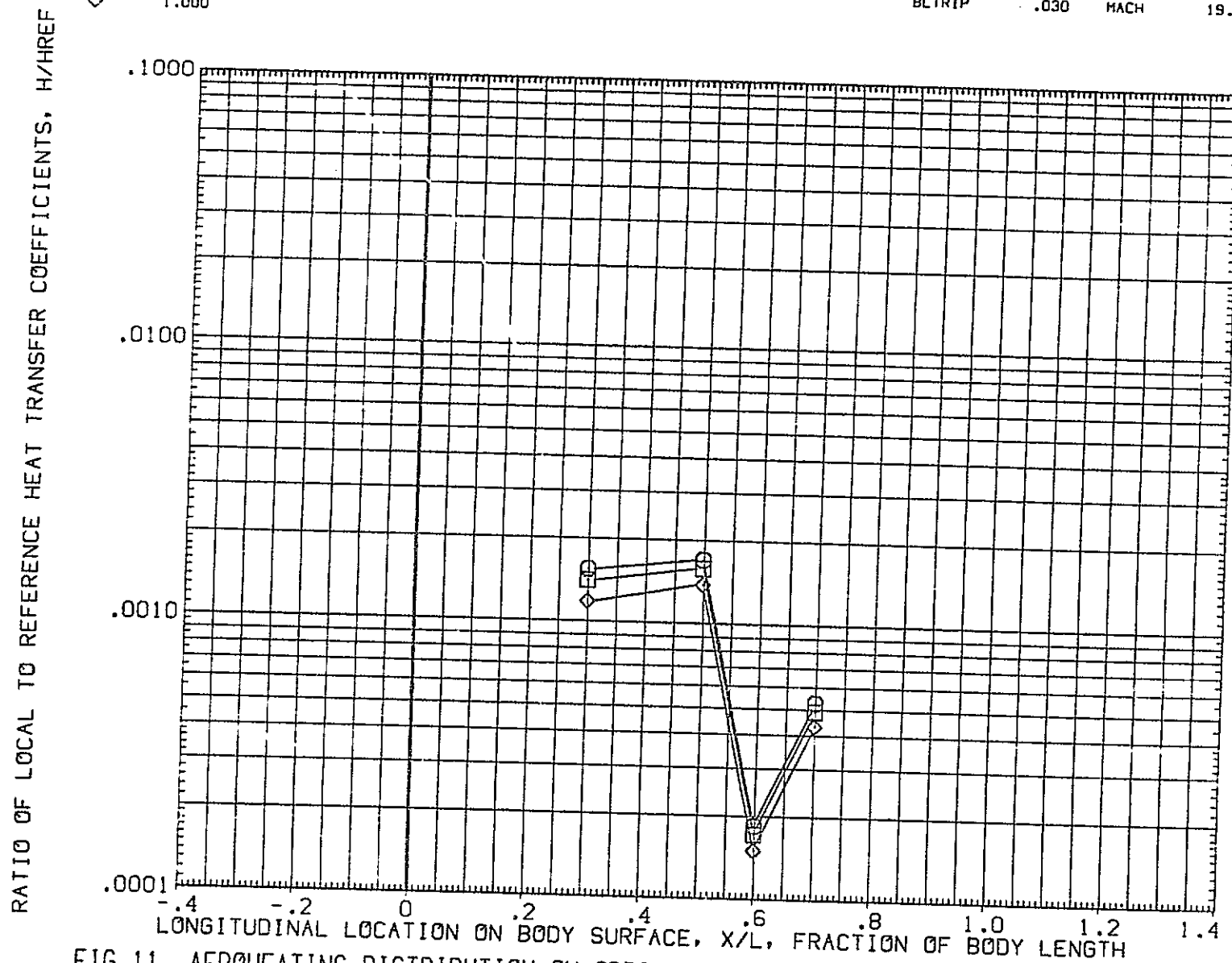


FIG 11 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS ON

IH19 B22C7F5M4V7W111

ORBITER UPPER FUSELAGE (SQEU05)

SYMBOL	HAW/HT	Z(WL)	ALPHA
○	.850	425.000	.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	MACH 19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

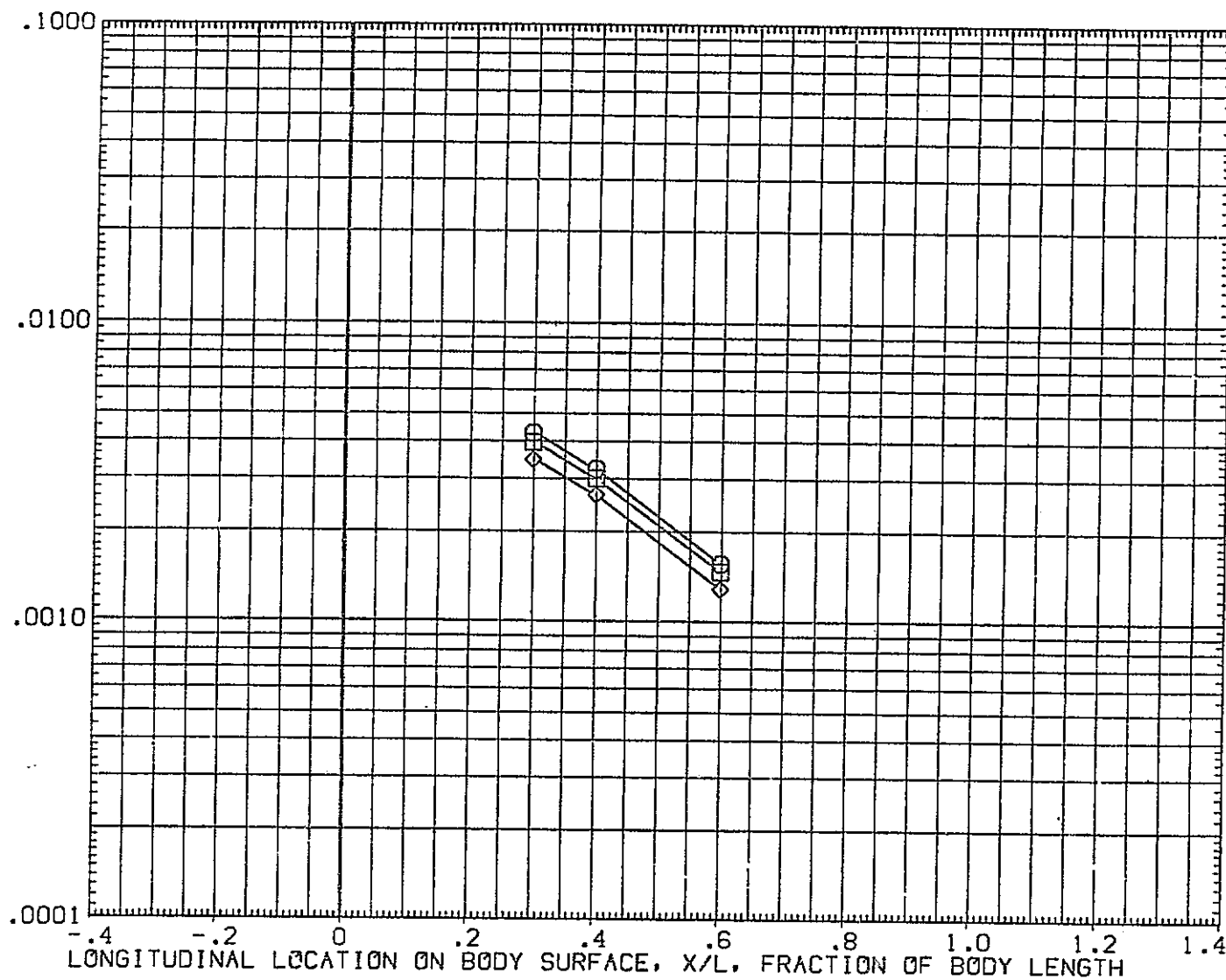


FIG 11 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS ON

SYMBOL	HAW/HT	Z(WL)	ALPHA
◇	.850	501.000	.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	MACH 19.800

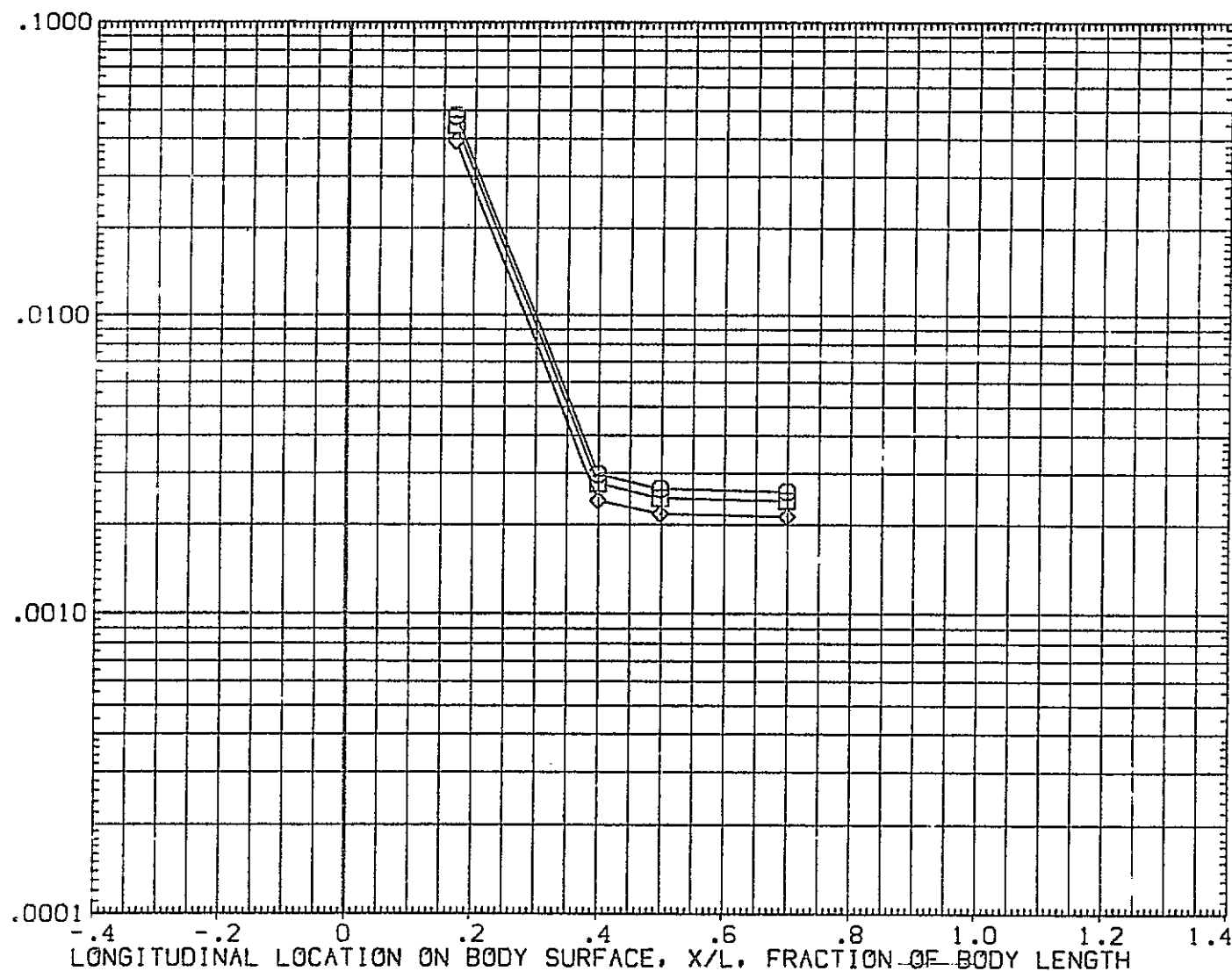
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 11 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS ON



IH19 B22C7F5M4V7W111

ORBITER UPPER FUSELAGE (SQEU05)

SYMBOL	HAW/HT	Z(WL)	ALPHA
◇	.850	375.000	5.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	MACH 19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

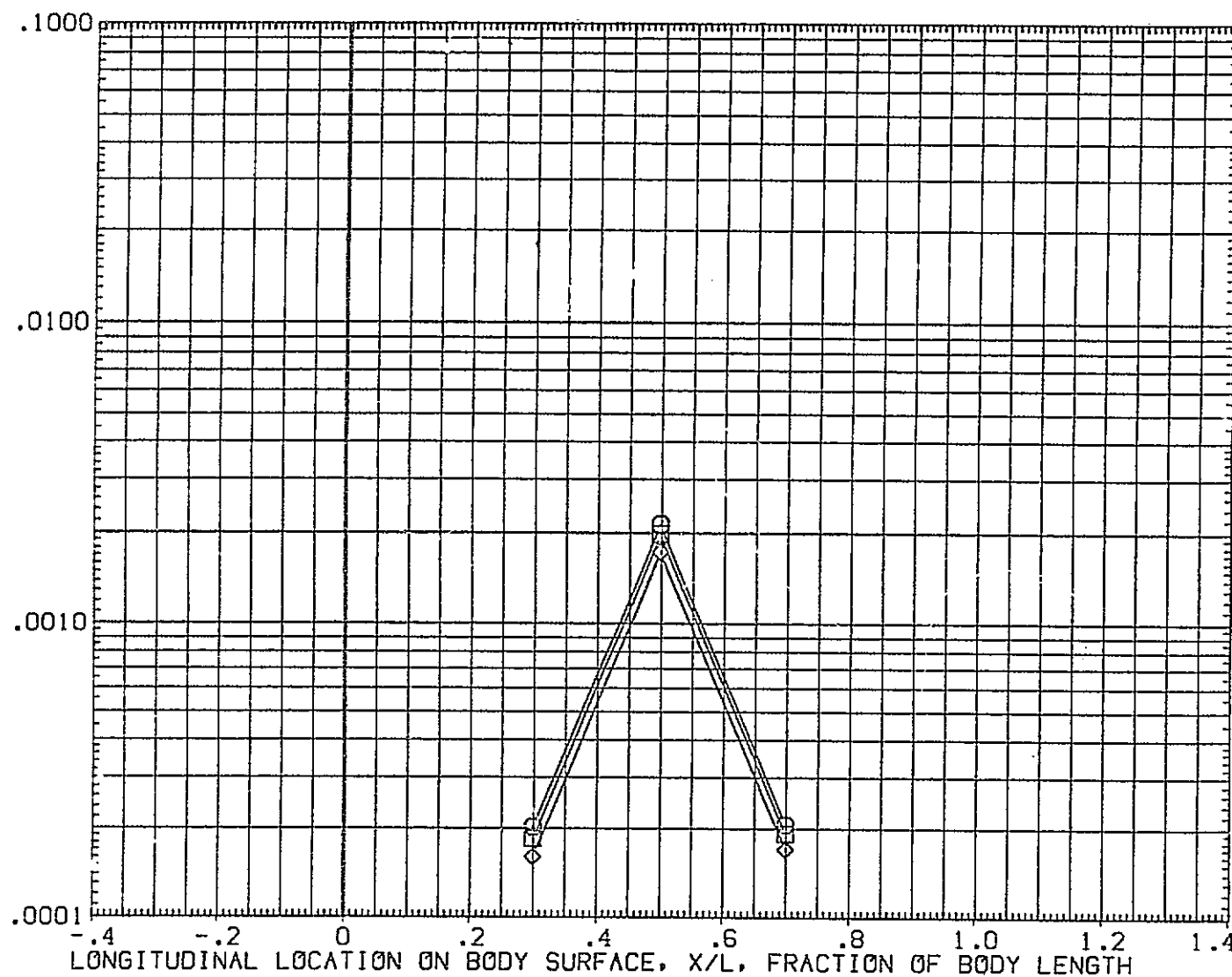


FIG 11 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS ON

IH19 B22C7F5M4V7W111

ORBITER UPPER FUSELAGE (SQEU05)

SYMBOL	HAW/HT	Z(WL)	ALPHA
◇	.850	425.000	5.090
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.030	MACH	19.800

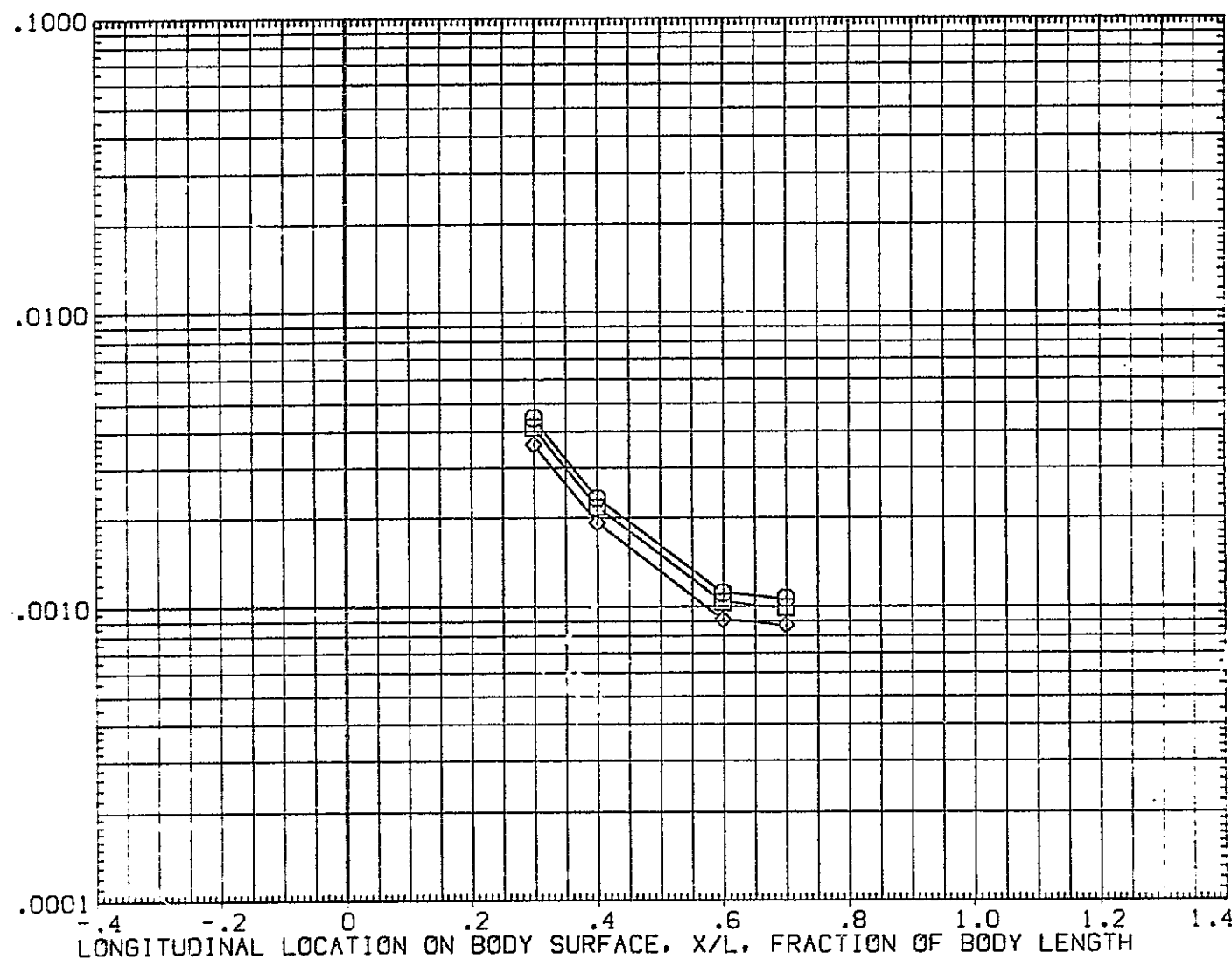
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 11 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS ON

IH19 B22C7F5M4V7W111

ORBITER UPPER FUSELAGE (SQEU05)

SYMBOL	HAW/HT	Z(WL)	ALPHA
○	.850	501.000	5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	MACH 19.800

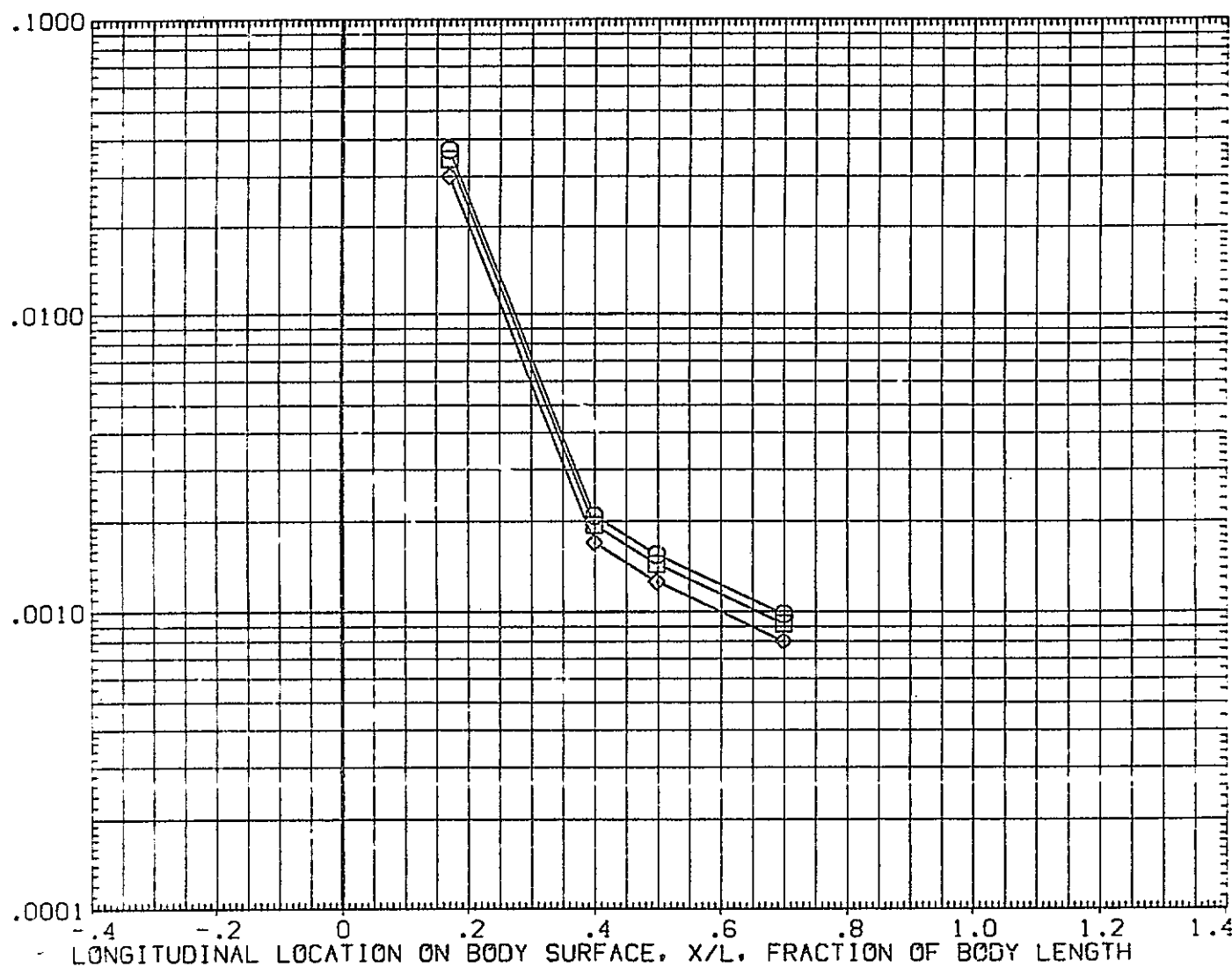
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 11 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS ON

IH19 322C7F5M4V7W111

ORBITER UPPER FUSELAGE (SQEU05)

SYMBOL	HAW/HT	Z(WL)	ALPHA
○	.850	375.000	10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	HACH 19.800

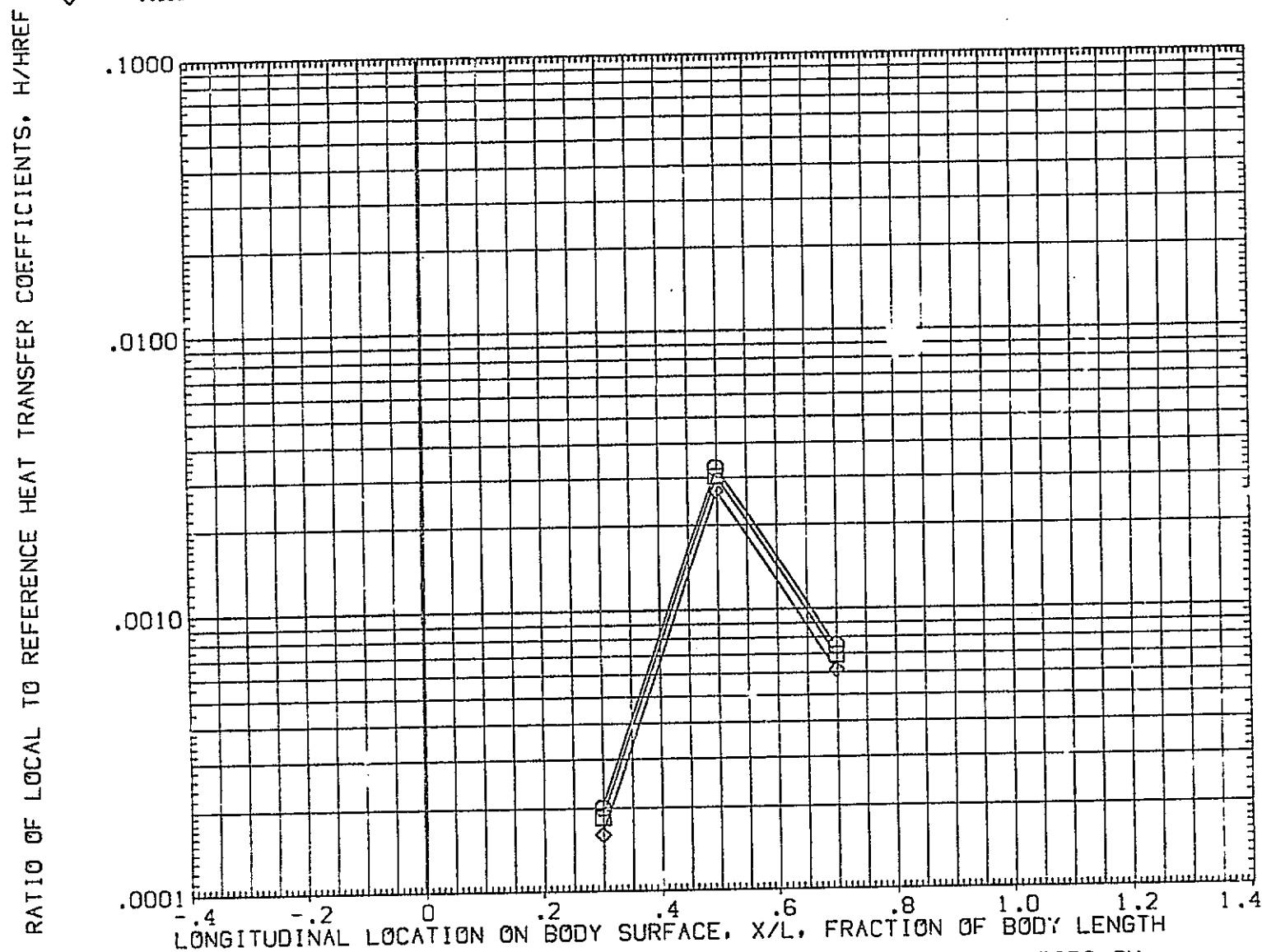


FIG 11 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS ON

IH19 B22C7F5M4V7W111

ORBITER UPPER FUSELAGE (SQEU05)

SYMBOL	HAW/HT	Z(WL)	ALPHA
○	.850	425.000	10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.030	HACH	19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

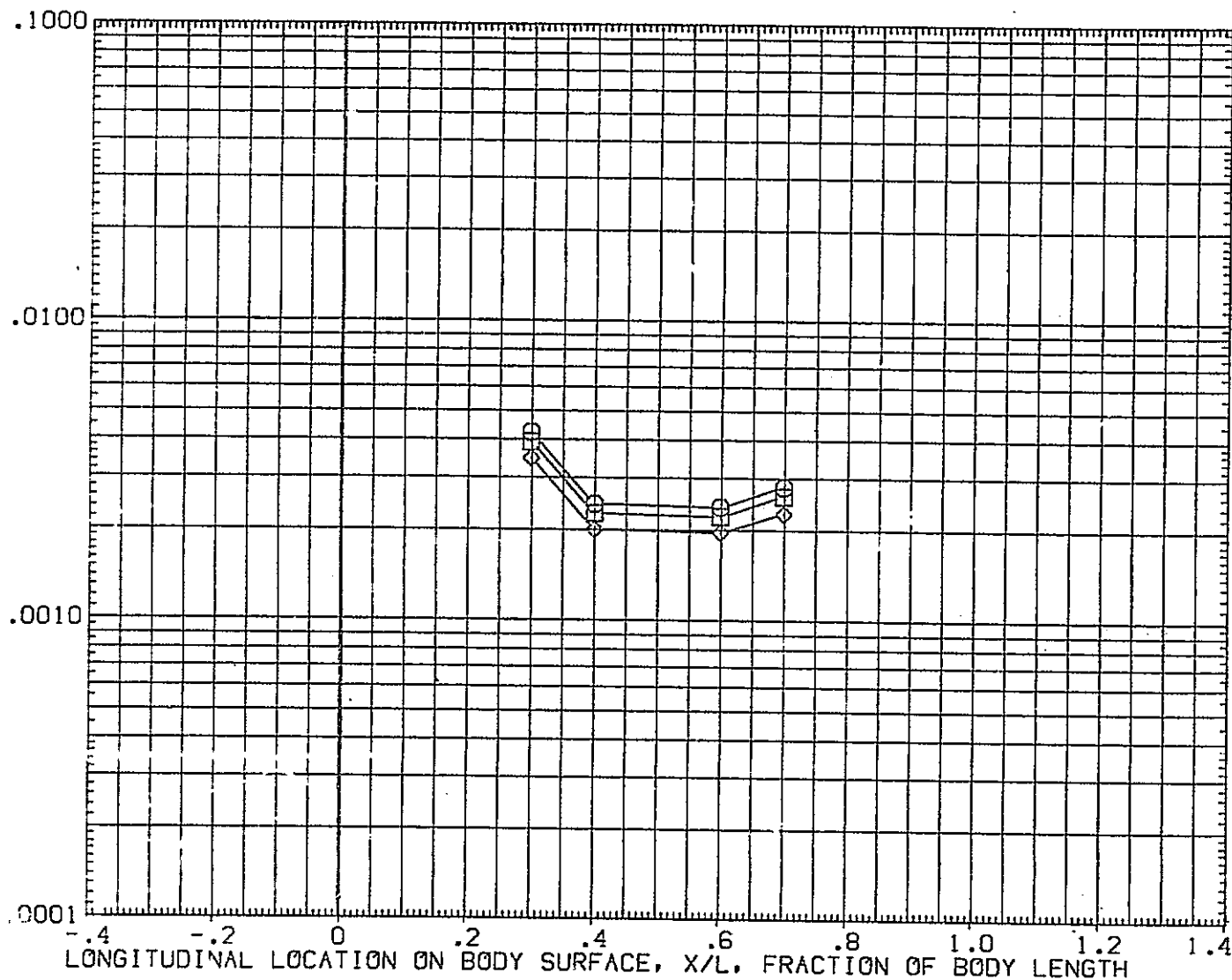


FIG 11 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS ON

SYMBOL	HAW/HT	Z(WL)	ALPHA
◇	.850	501.000	10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	MACH 19.600

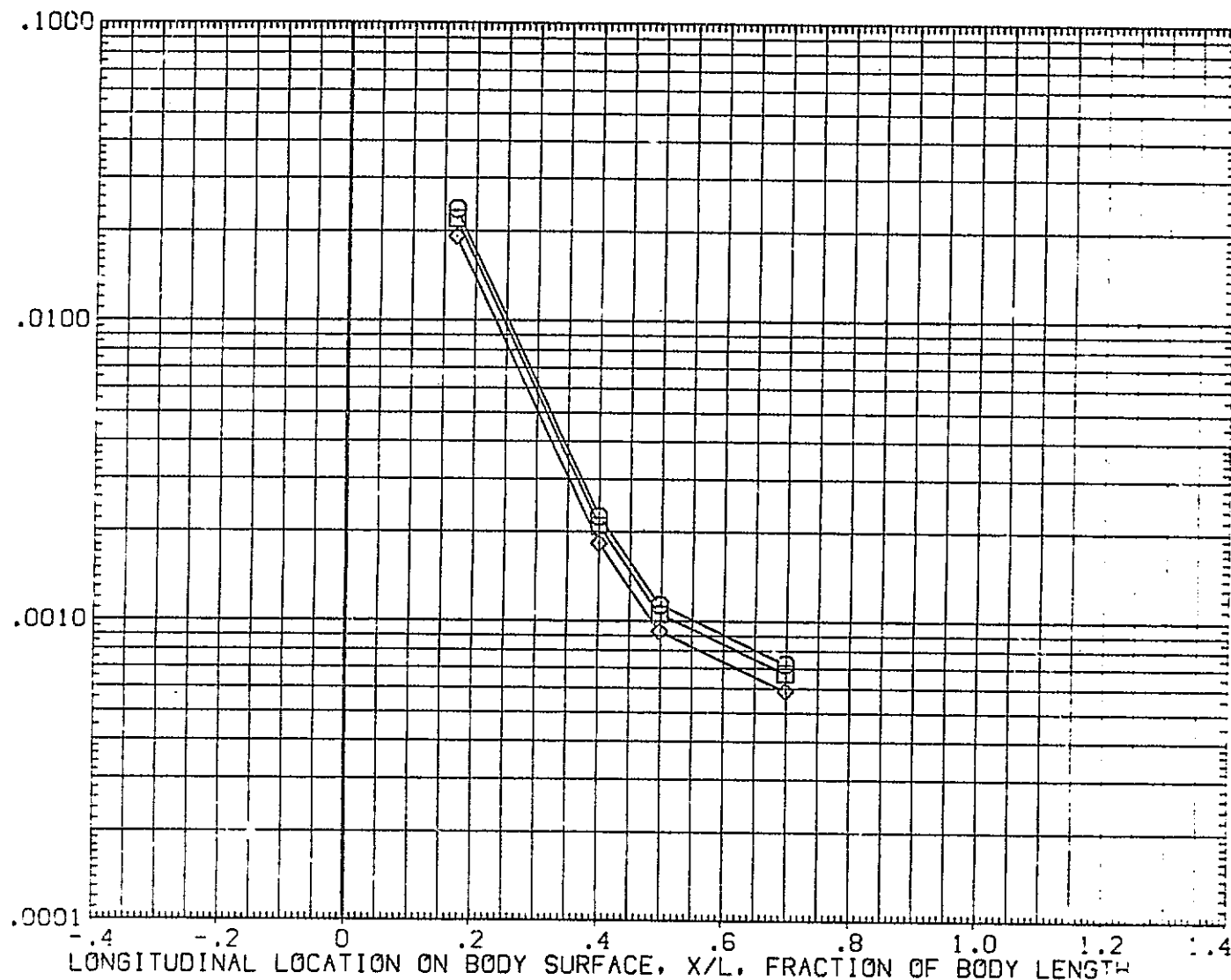
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 11 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS ON

IH19 B22C7F5M4V7W111 T8 ORBITER UPPER FUSELAGE (SQEU04)

SYMBOL	HAW/HT	Z(WL)	ALPHA
○	.850	375.000	-10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	DELTAH .175
MACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

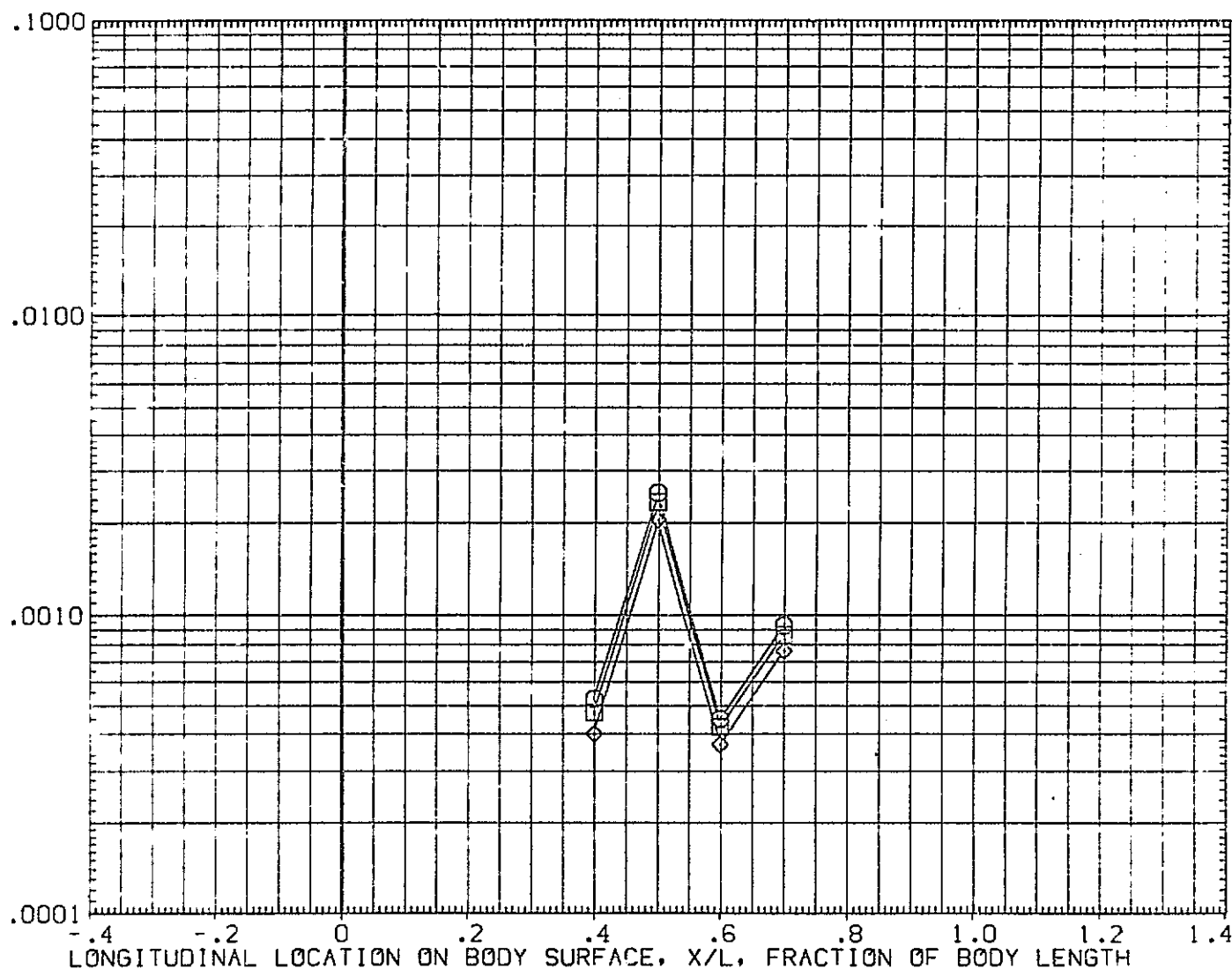


FIG 11 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS ON

SYMBOL	HAW/HT	Z(WL)	ALPHA
□	.850	425.000	-10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	DELTAH .175
MACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

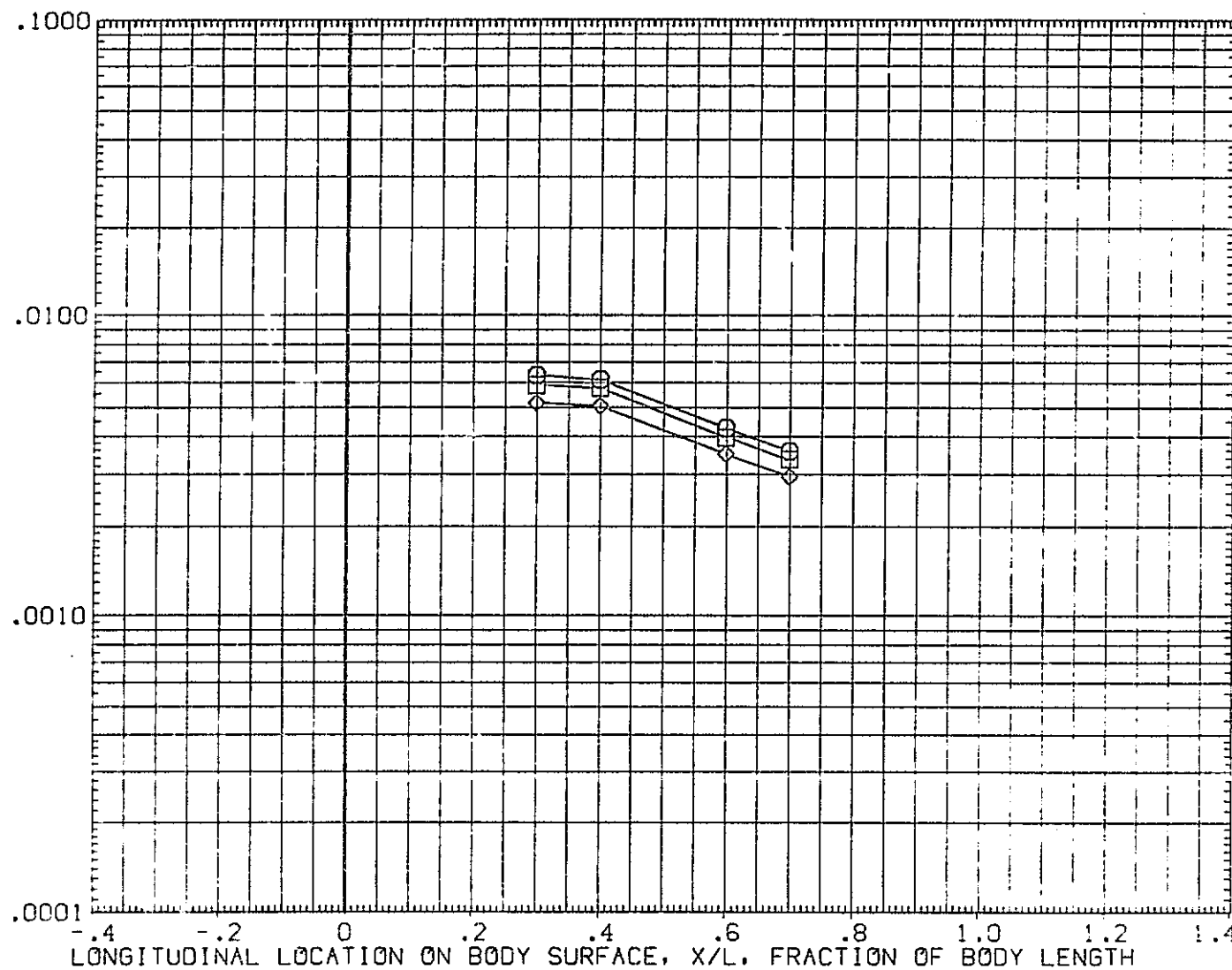


FIG 11 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS ON



IH19 B22C7F5M4V7W111 T8 ORBITER UPPER FUSELAGE (SQEU04)

SYMBOL	HAW/HT	Z(WL)	ALPHA
◇	.850	501.000	-10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.030	DELTAH	.175
MACH	19.800		

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

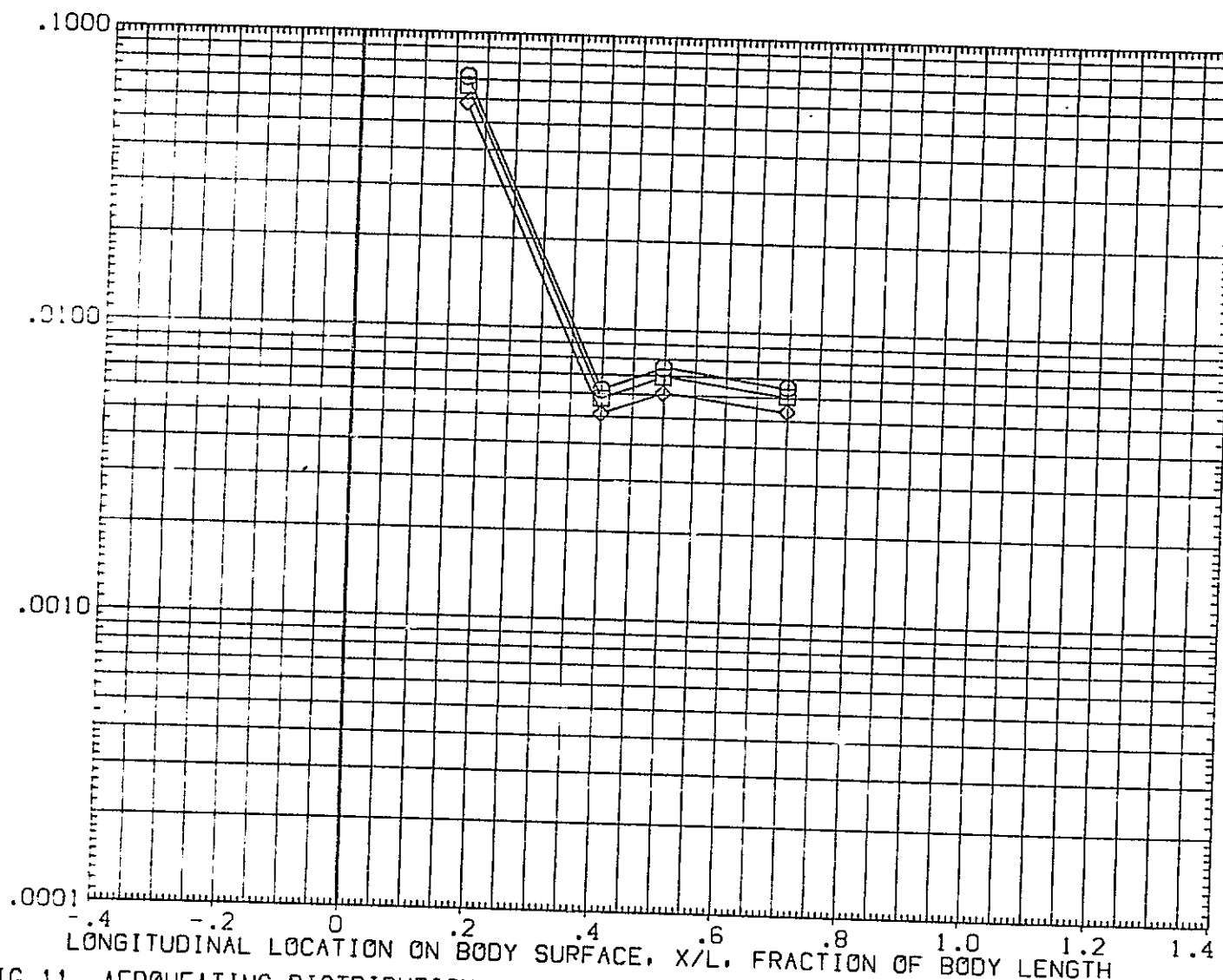


FIG 11 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS ON

IH19 B22C7F5M4V7W111 T8 ORBITER UPPER FUSELAGE (SQEU04)

SYMBOL	HAW/HT	Z(WL)	ALPHA
□	.850	375.000	-5.000
◇	.990		
	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.030	DELTAH	.175
MACH	19.800		

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

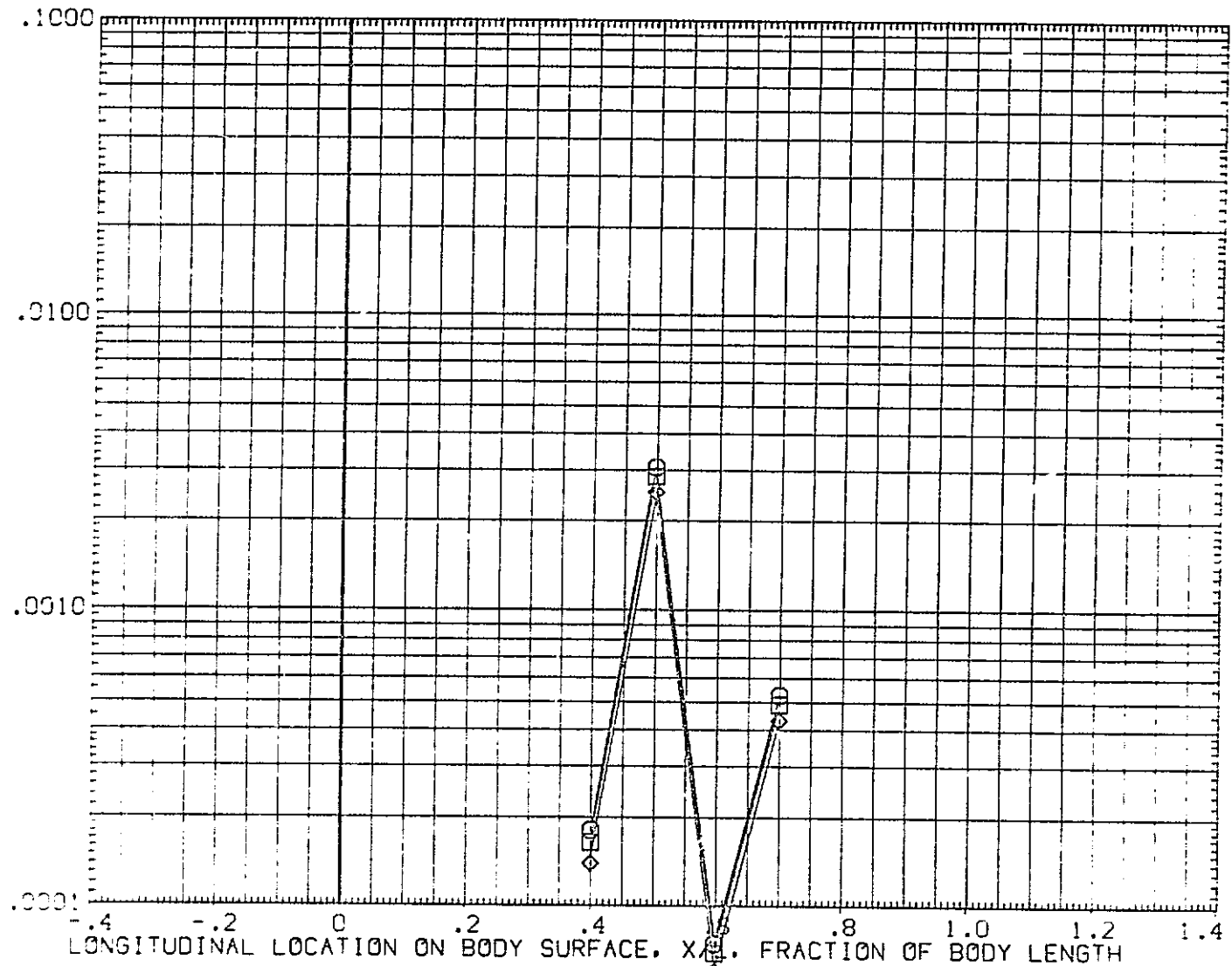


FIG 11: AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS ON

IH19 B22C7F5M4V7W111 T8 ORBITER UPPER FUSELAGE (SQEU04)

S M 10L HAW/HT Z(WL) ALPHA  
 ◇ □ C .850 425.000 -5.000  
 .900  
 1.000

PARAMETRIC VALUES  
 BETA .000 RN/L .500  
 BLTRIP .030 DELTAH .175  
 MACH 19.800

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

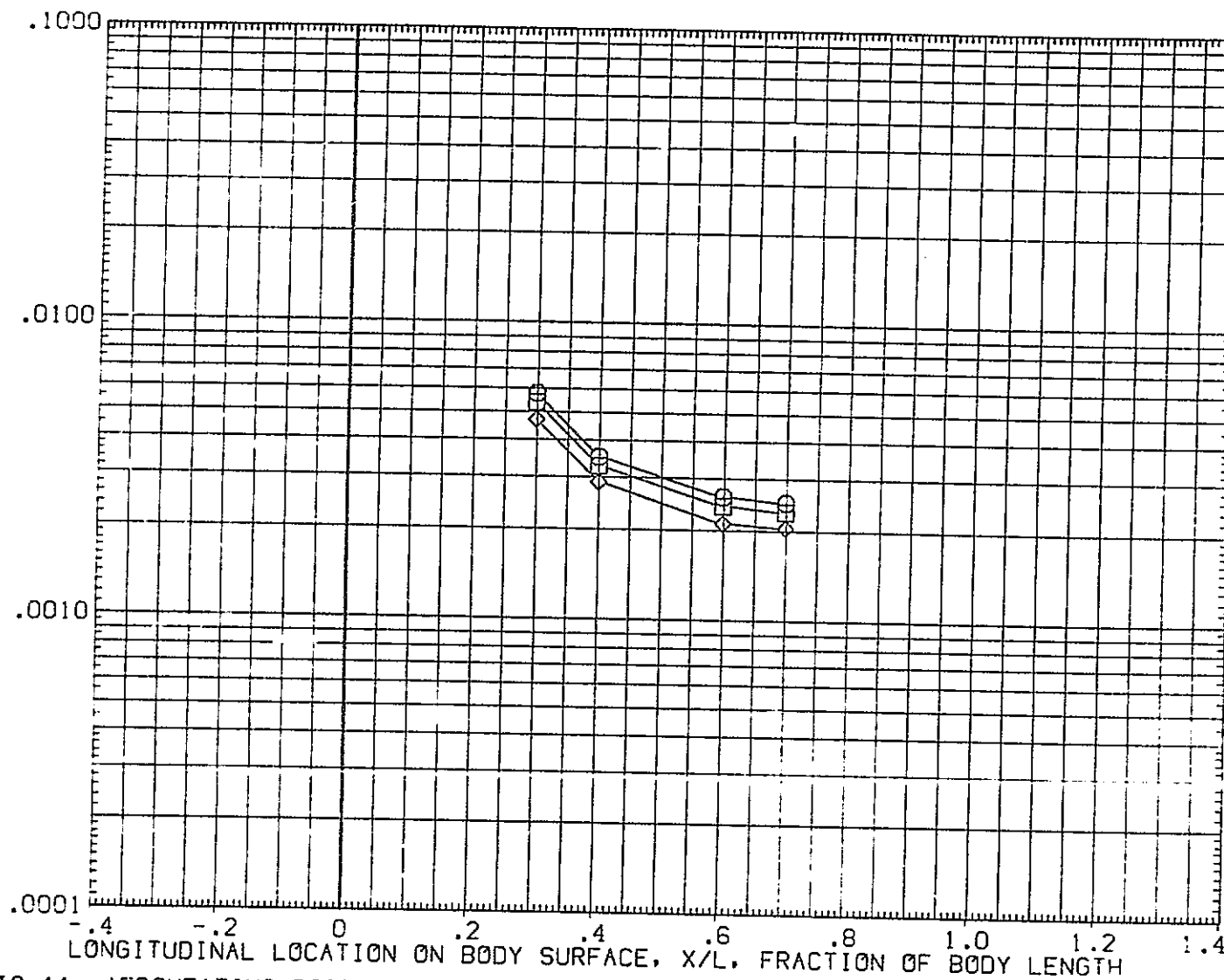


FIG 11 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS ON

IH19 B22C7F5M4V7W111 T8 ORBITER UPPER FUSELAGE (SQEU04)

SYMBOL	HAW/HT	Z(WL)	ALPHA
◇	.850	501.000	-5.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	DELTAH .175
MACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$

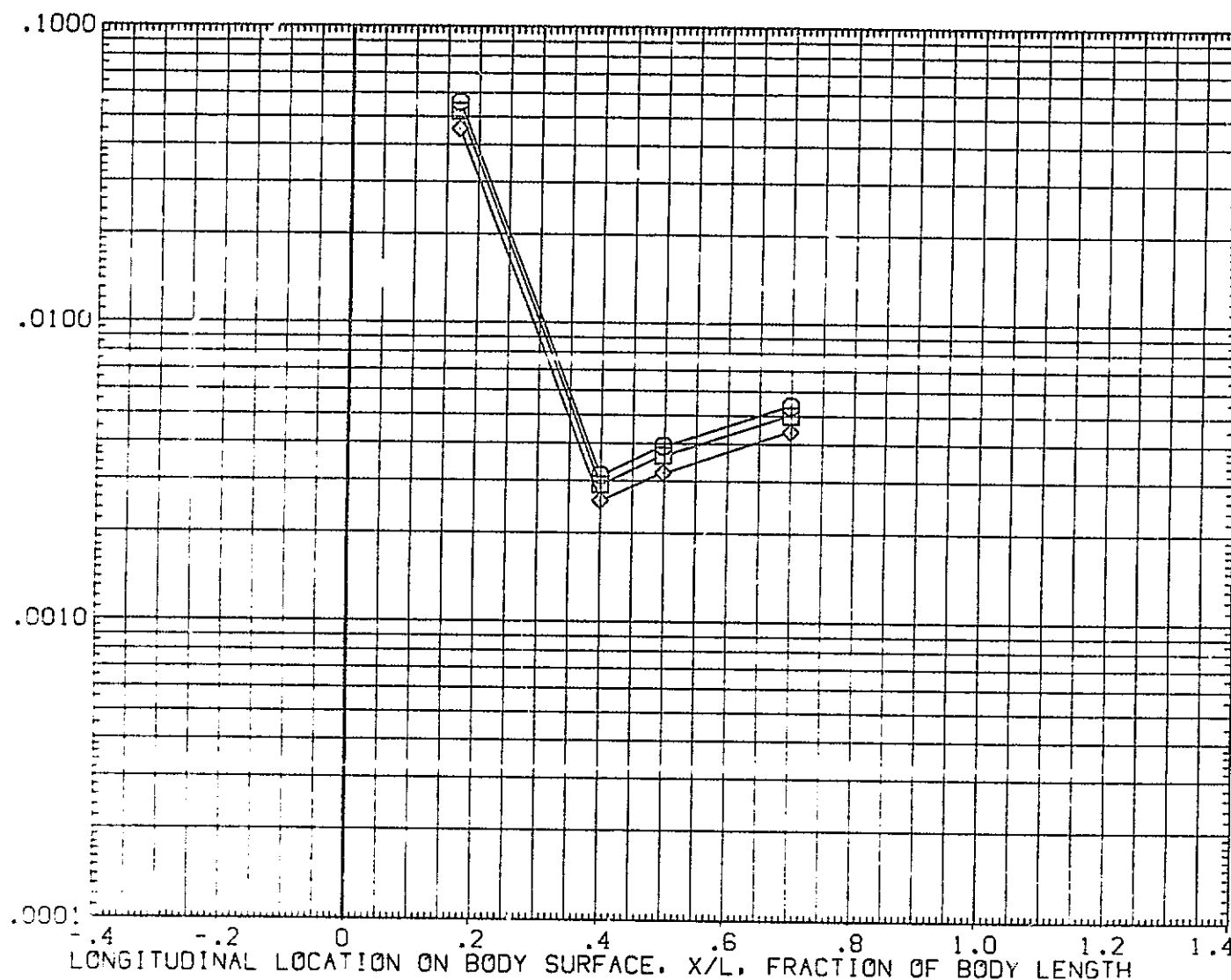


FIG 11 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS ON

IH19 B22C7F5M4V7W111 T8 ORBITER UPPER FUSELAGE (SQEU04)

SYMBOL	HAW/HT	Z(WL)	ALPHA
□	.850	375.000	.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.030	DELTAH	.175
MACH	19.800		

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$

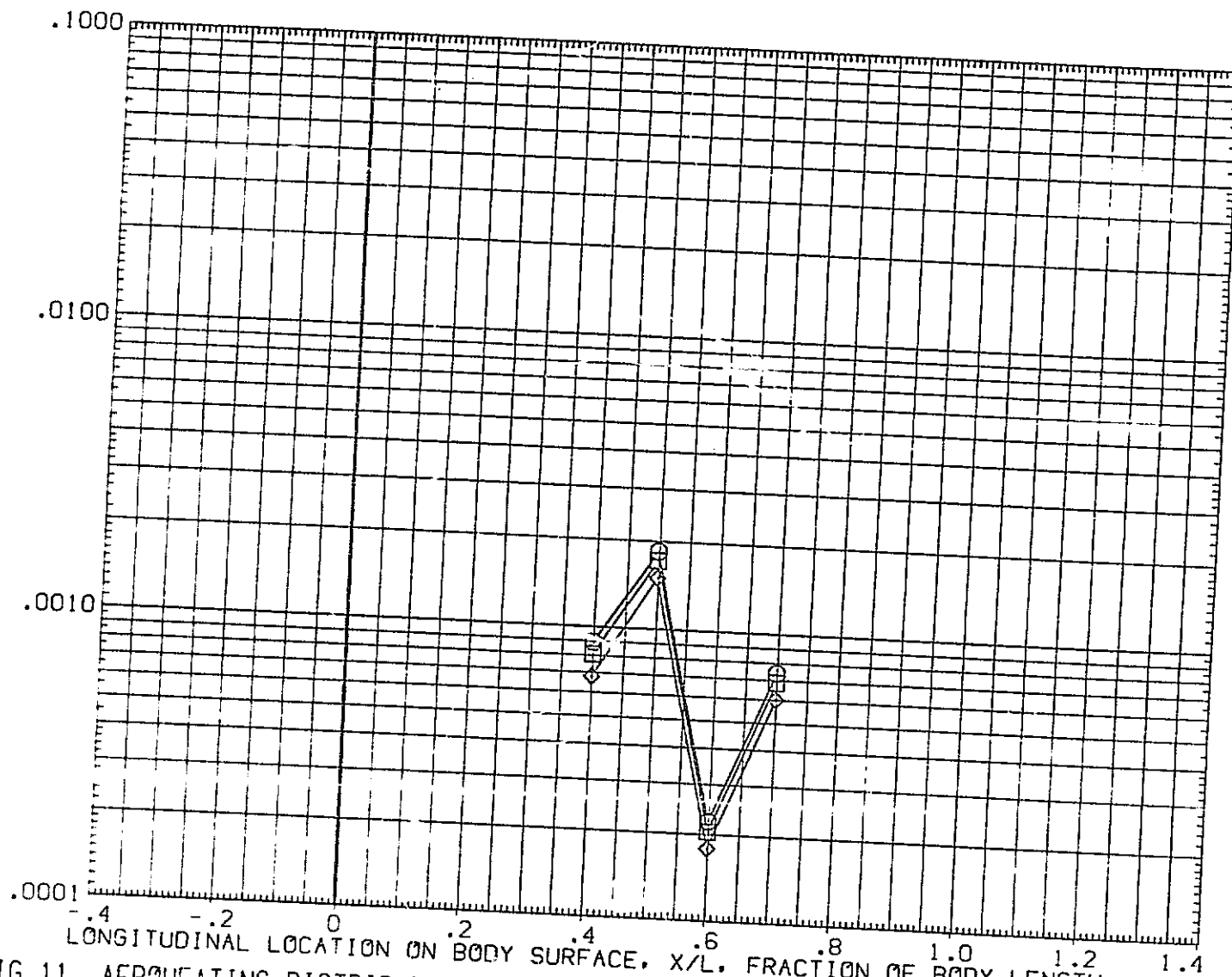


FIG 11 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS ON

IH19 B22C7F5M4V7W111 T8 ORBITER UPPER FUSELAGE (SQEU04)

SYMBOL	HAW/HT	Z(WL)	ALPHA
○	.850	425.000	.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.030	DELTAH	.175
MACH	19.800		

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$

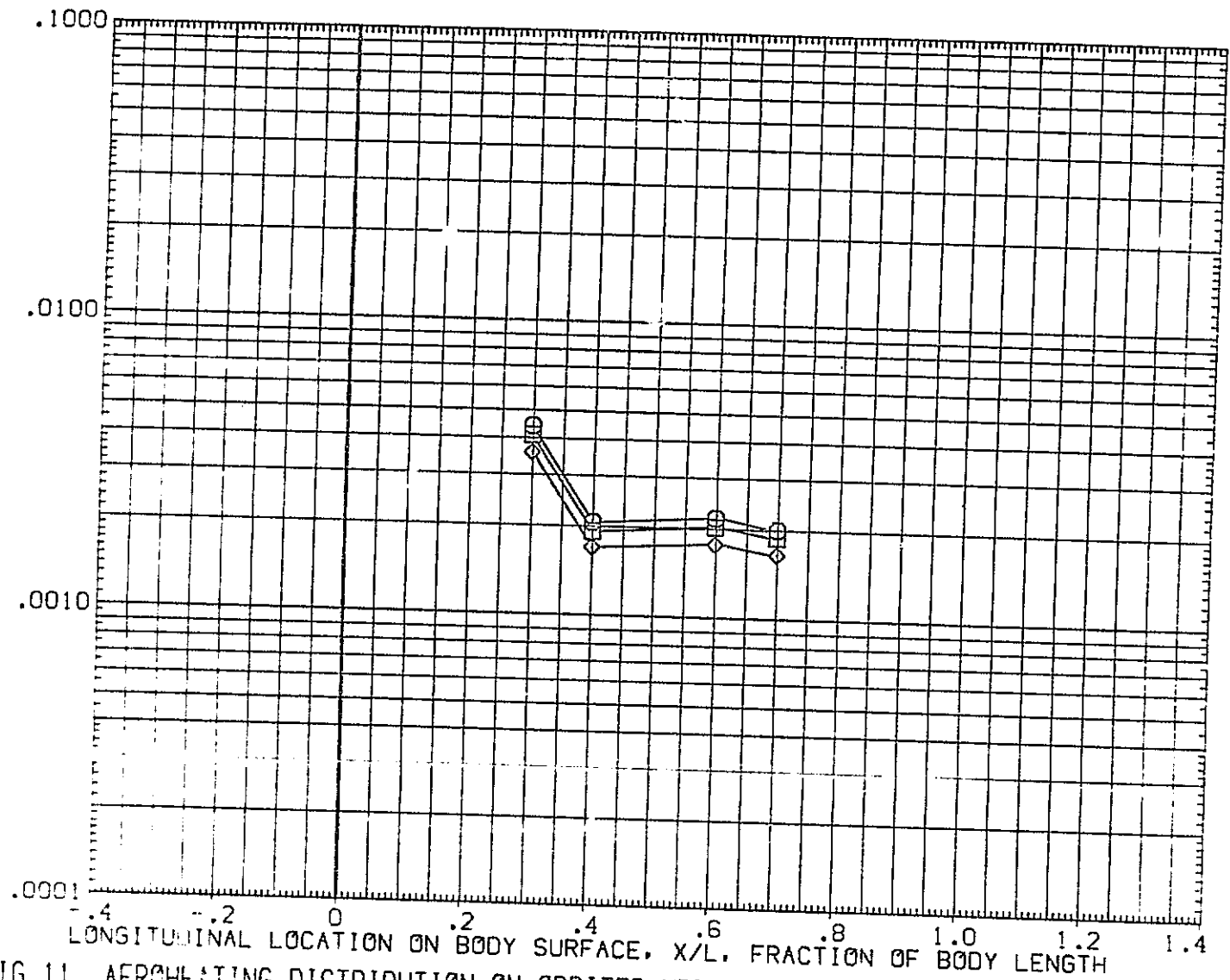


FIG 11 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS ON

IH19 B22C7F5M4V7W111 T8 ORBITER UPPER FUSELAGE (SQEU04)

SYMBOL	HAW/HT	Z(VL)	ALPHA
□	.850	501.000	.000
◇	.900		
	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.030	DELTAH	.175
MACH	19.800		

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

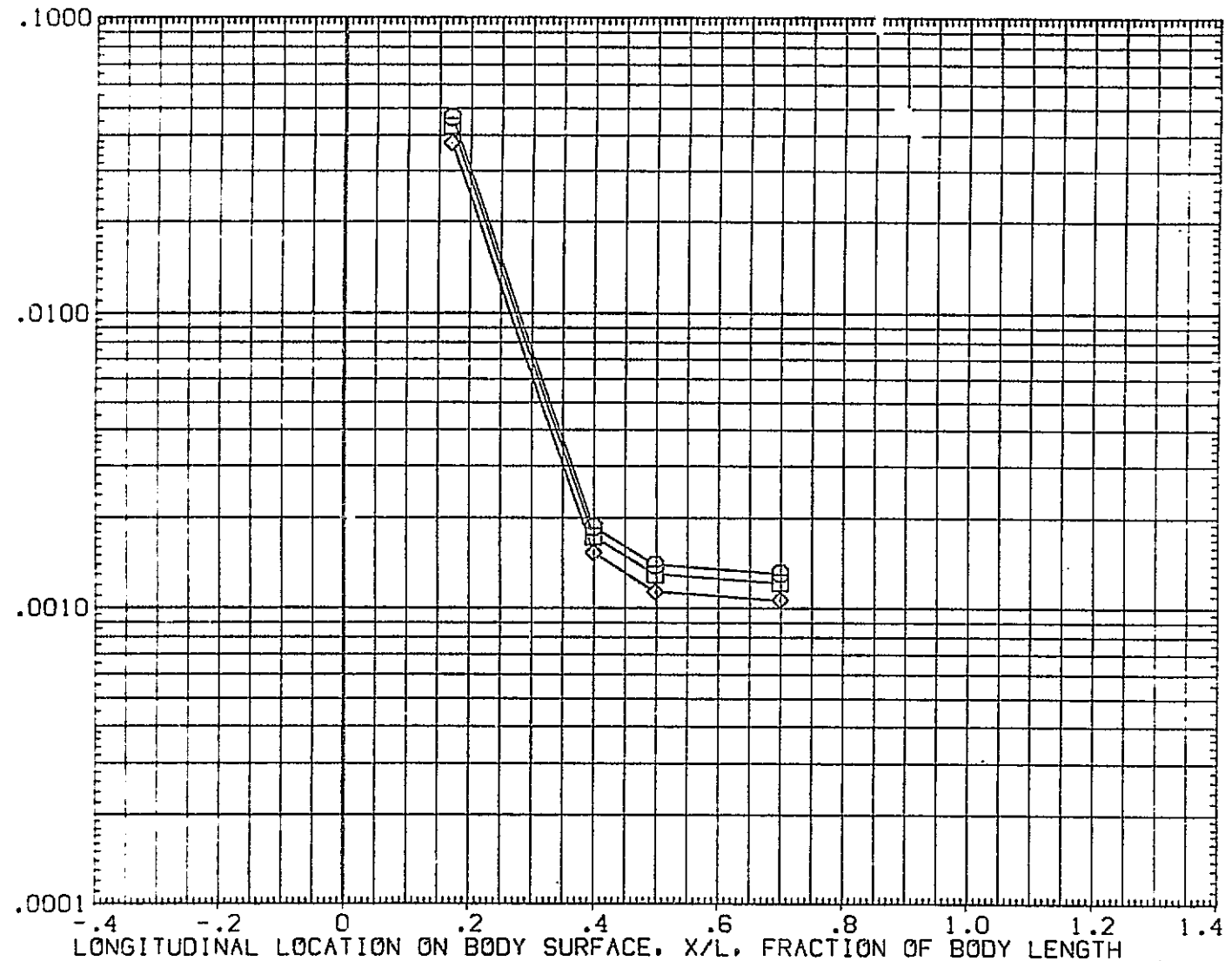


FIG 11 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS ON

SYMBOL	HAW/HT	Z(WL)	ALPHA
□	.850	375.000	5.000
□	.900		
□	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.030	DELTAH	.175
MACH	19.800		

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

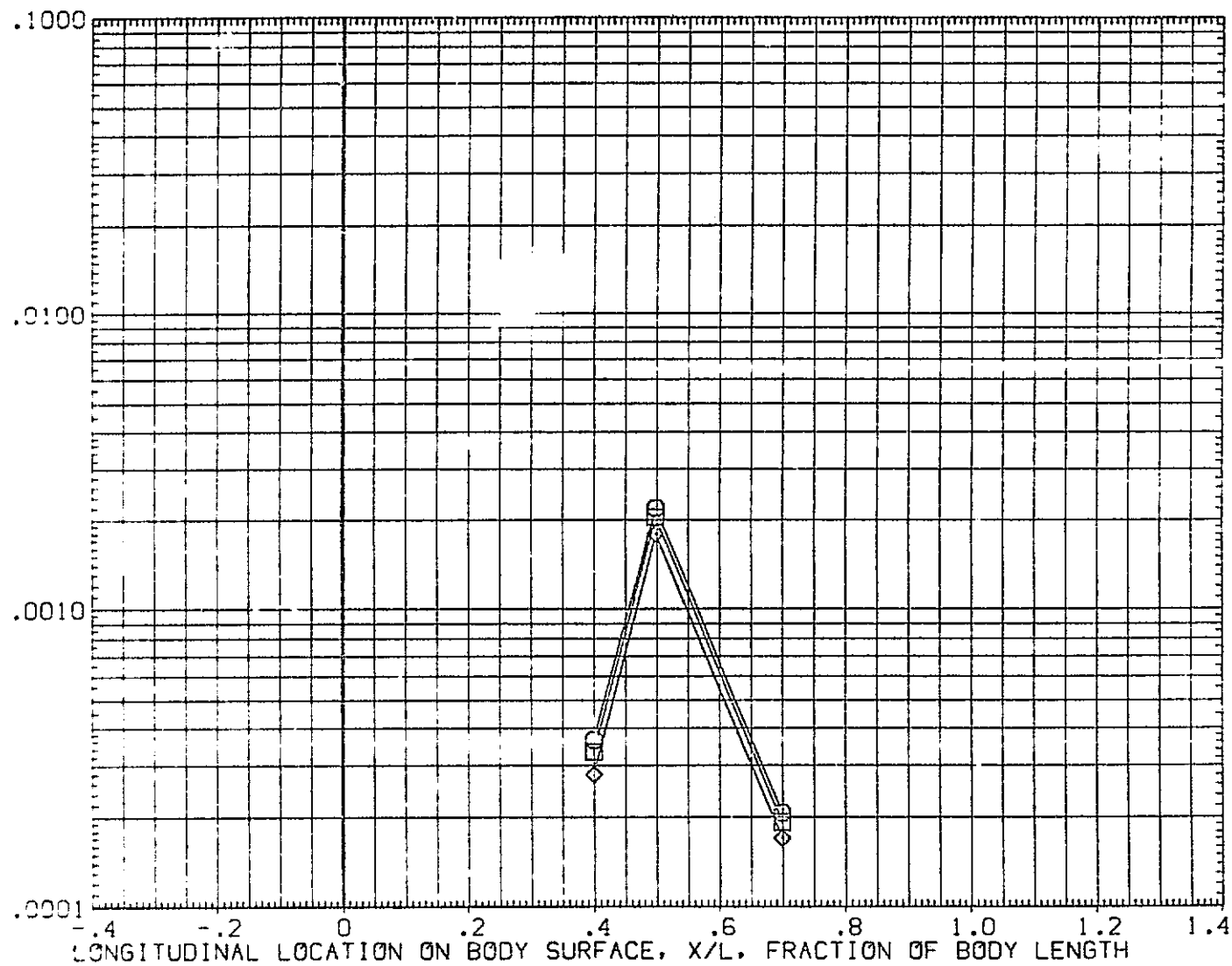


FIG 11 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS ON



IH19 B22C7F5M4V7W111 T8 ORBITER UPPER FUSELAGE (SQEU04)

SYMBOL	HAW/HT	Z(WL)	ALPHA
○	.850	425.000	5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.030	DELTAH	.175
MACH	19.800		

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$

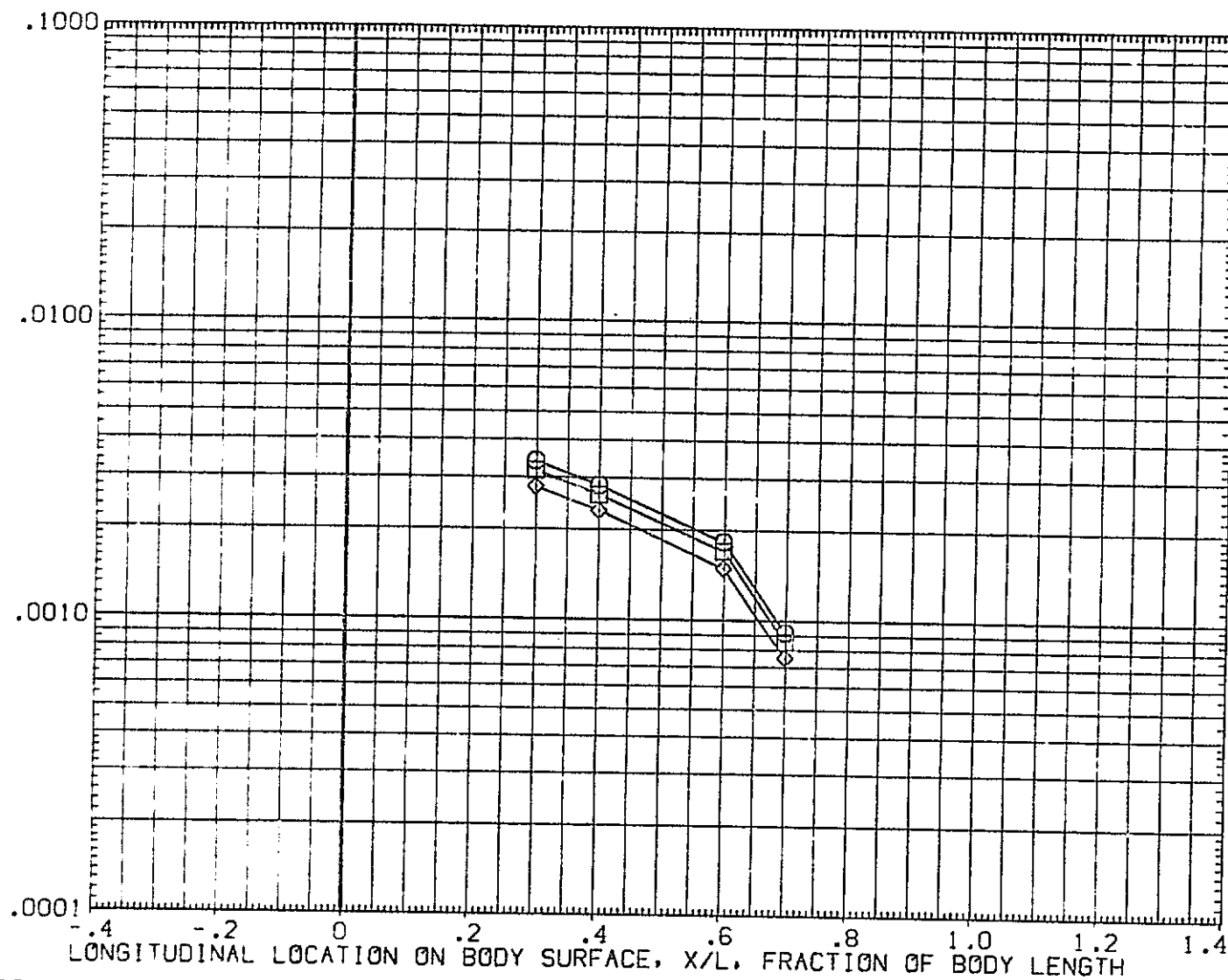


FIG 11 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS ON

SYMBOL	HAW/HT	Z(WL)	ALPHA
◇	.850	501.000	5.000
◇	.900		
◇	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.030	DELTAH	.175
MACH	19.800		

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

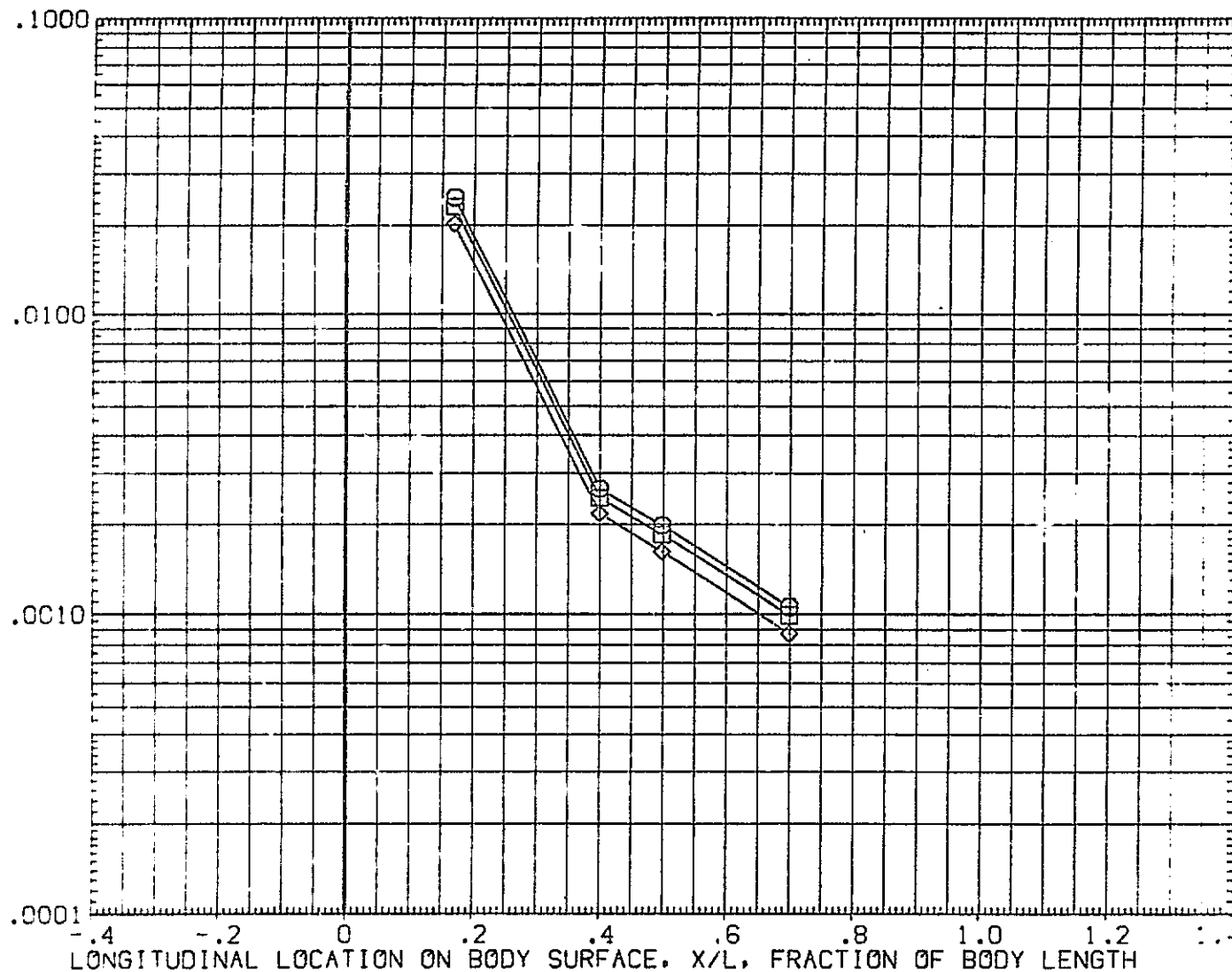


FIG 11 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS ON

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

IH19 B22C7F5M4V7W111 T8 ORBITER UPPER FUSELAGE (SQEU04)

SYMBOL	HAW/HT	Z(WL)	ALPHA
○	.850	375.000	10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	DELTAH .175
HACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$

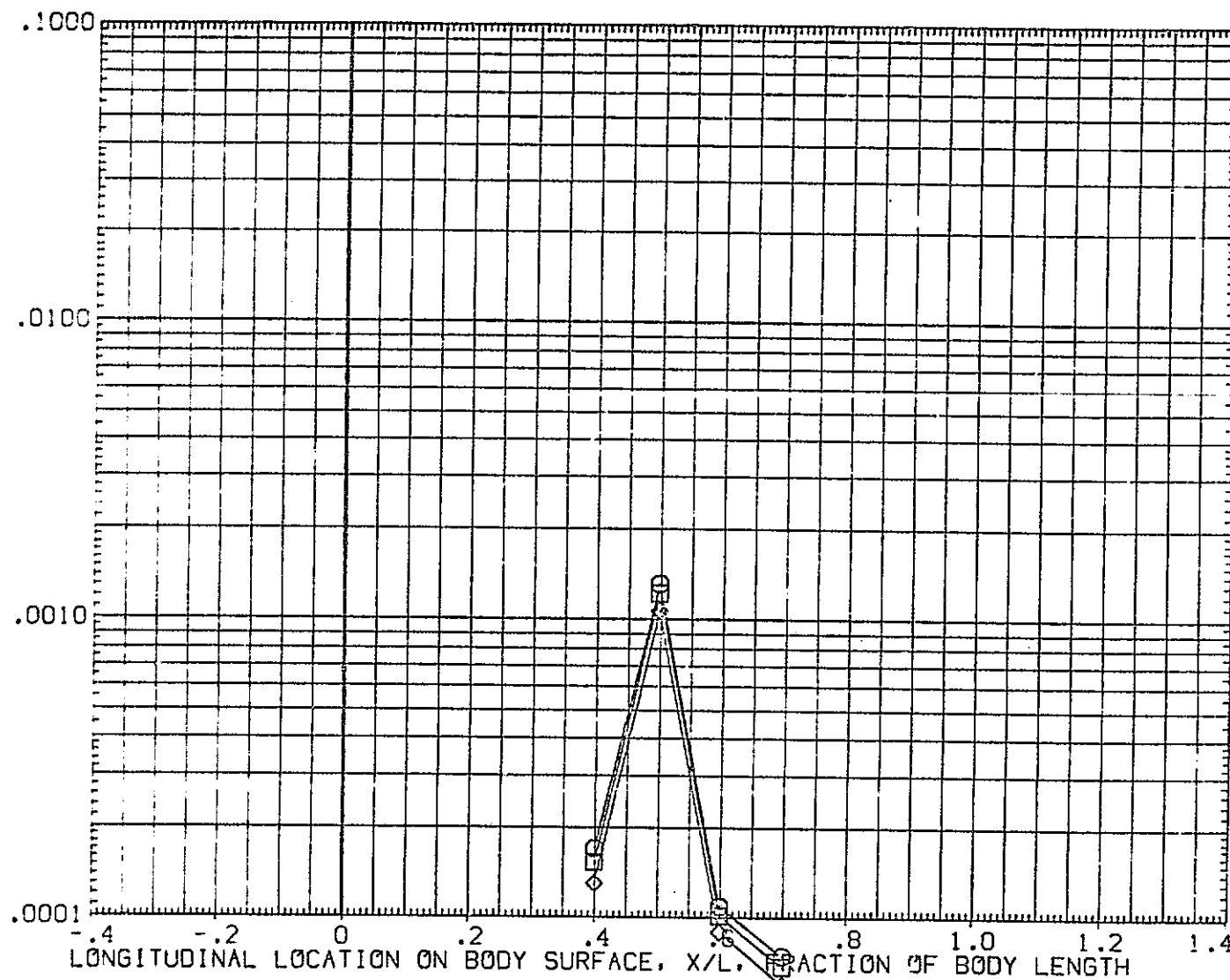


FIG 11 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS ON

SYMBOL	HAW/HT	Z(WL)	ALPHA
◇	.850	425.000	10.000
□	.900		
○	1.000		

PARAMETRIC VALUES			
BETA	.000	RN/L	.500
BLTRIP	.030	DELTAH	.175
MACH	19.800		

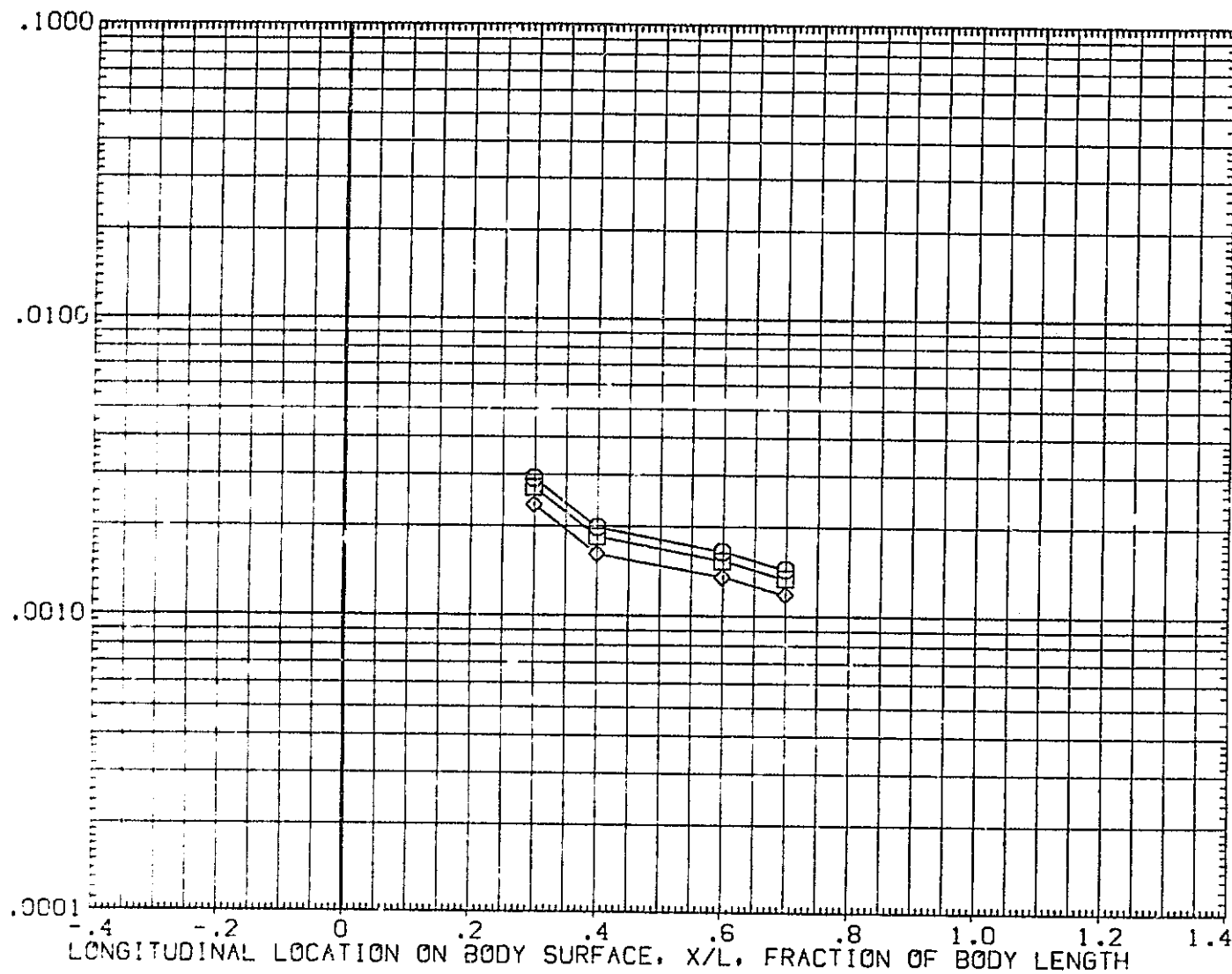
RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS,  $H/H_{REF}$ 

FIG 11 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS ON

IH19 B22C7F5M4V7W111 T8 ORBITER UPPER FUSELAGE (SQEU04)

SYMBOL	HAW/HT	Z(WL)	ALPHA
◇	.850	501.000	10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L .500
BLTRIP	.030	DELTAH .175
MACH	19.800	

RATIO OF LOCAL TO REFERENCE HEAT TRANSFER COEFFICIENTS, H/HREF

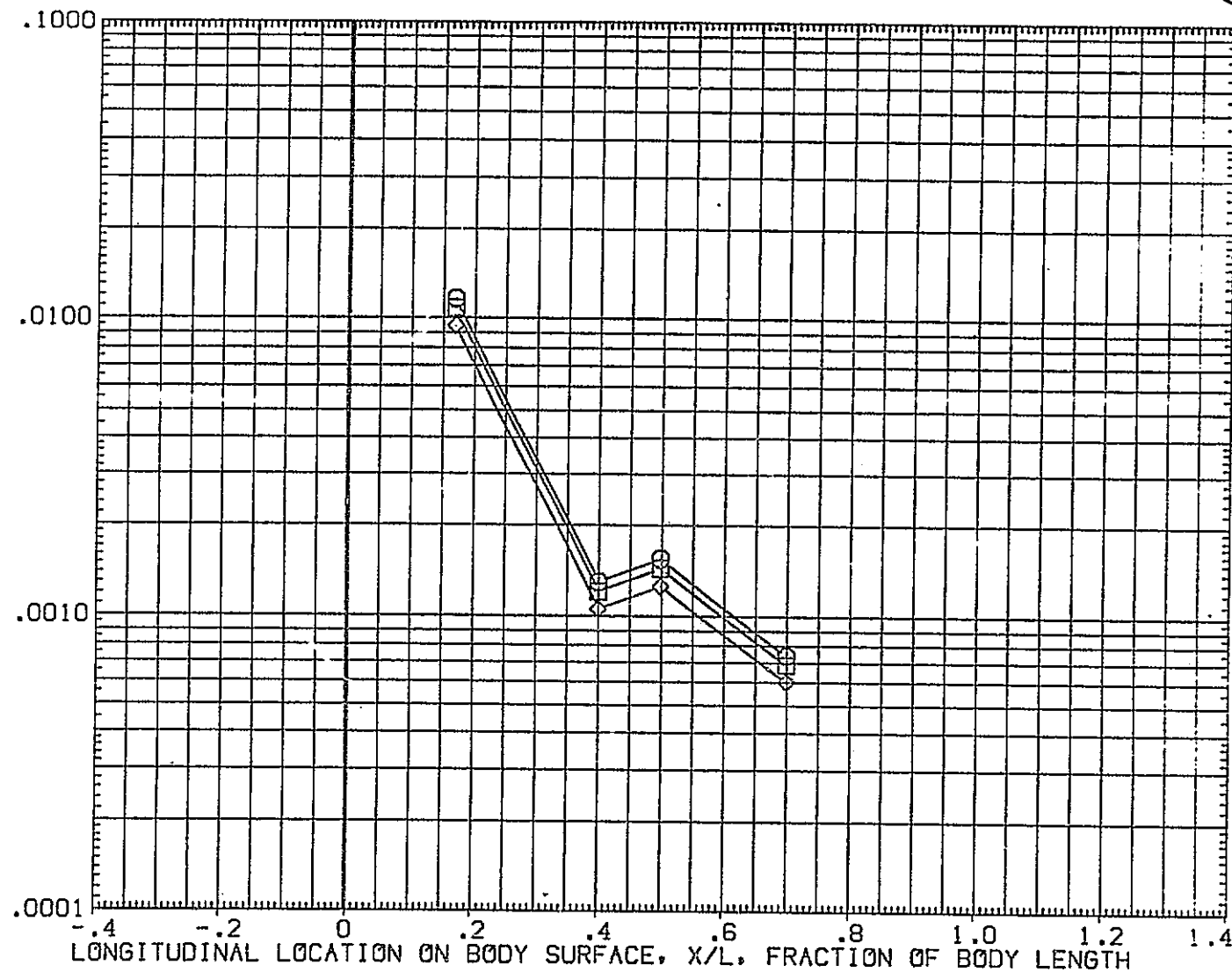


FIG 11 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS ON

# IH19 RATIO (ORB+TANK)/ORB ORBITER UPPER FUSELAGE (DQEU04)

SYMBOL	HAW/HT	Z(WL)	ALPHA
○	.850	375.000	-10.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	RN/L	
HACH	19.800	.500

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $H_i/H_u$

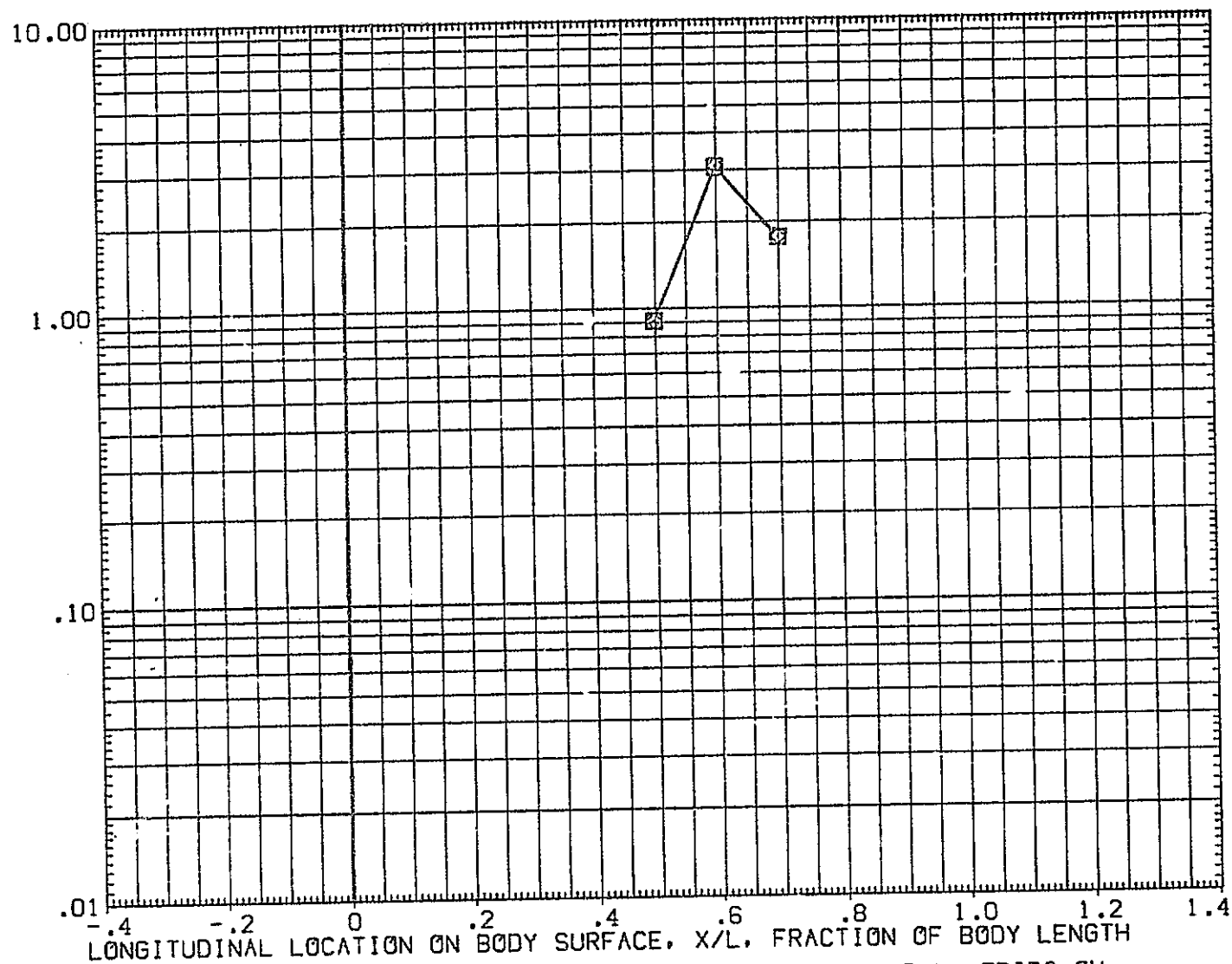


FIG 11 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS ON

# IH19 RATIO (ORB+TANK)/ORB ORBITER UPPER FUSELAGE (DQEU04)

SYMBOL	HAW/HT	Z(WL)	ALPHA
◇	.850	425.000	-10.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L
MACH	19.800	.500

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.  $H_i/H_u$

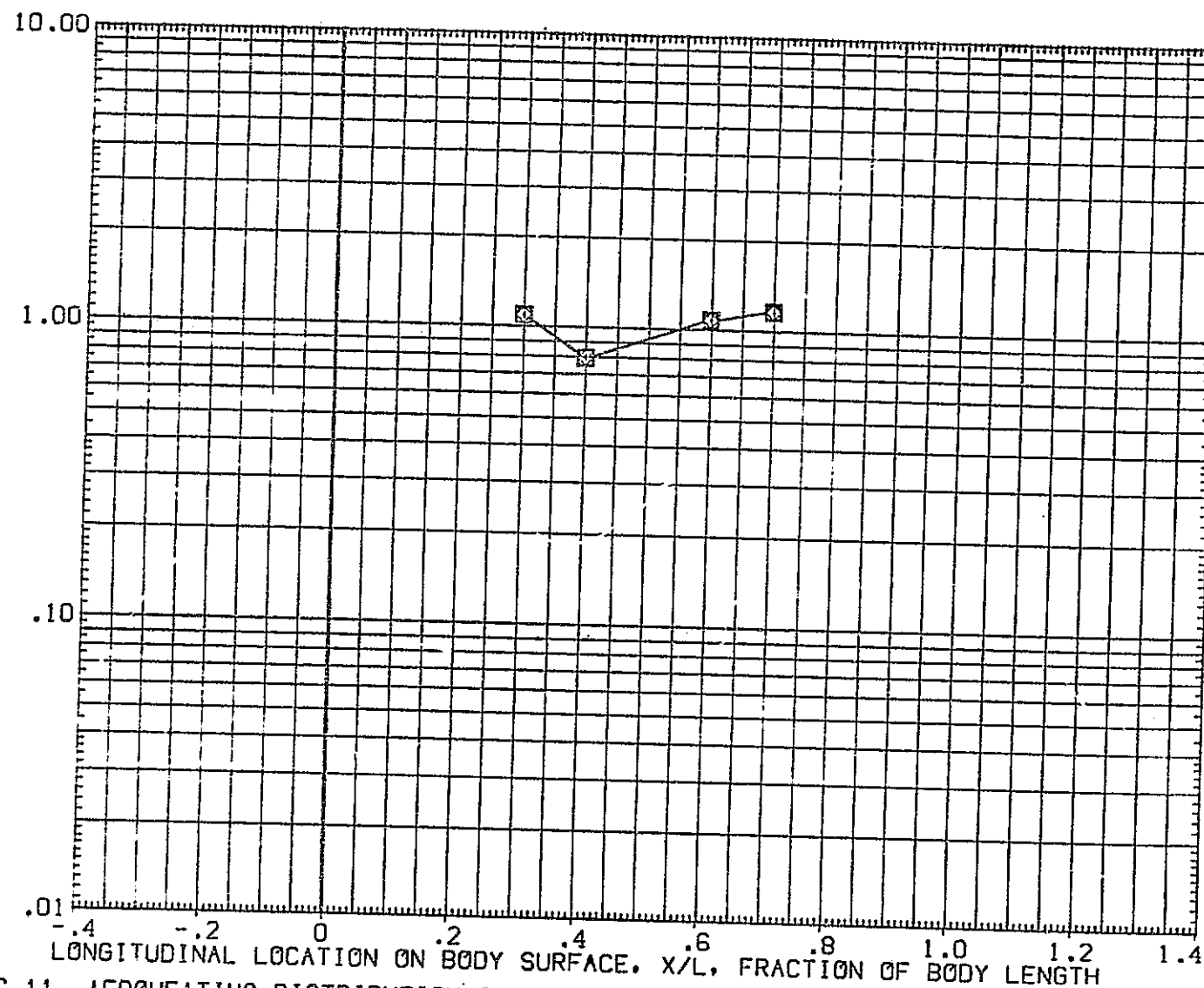


FIG 11 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS ON

# IH19 RATIO (ORB+TANK)/ORB ORBITER UPPER FUSELAGE (DQEU04)

SYMBOL	HAW/HT	Z(WL)	ALPHA
◇□□	.850	501.000	-10.000
	.900		
	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L
HACH	19.800	.500

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.. HI/HU

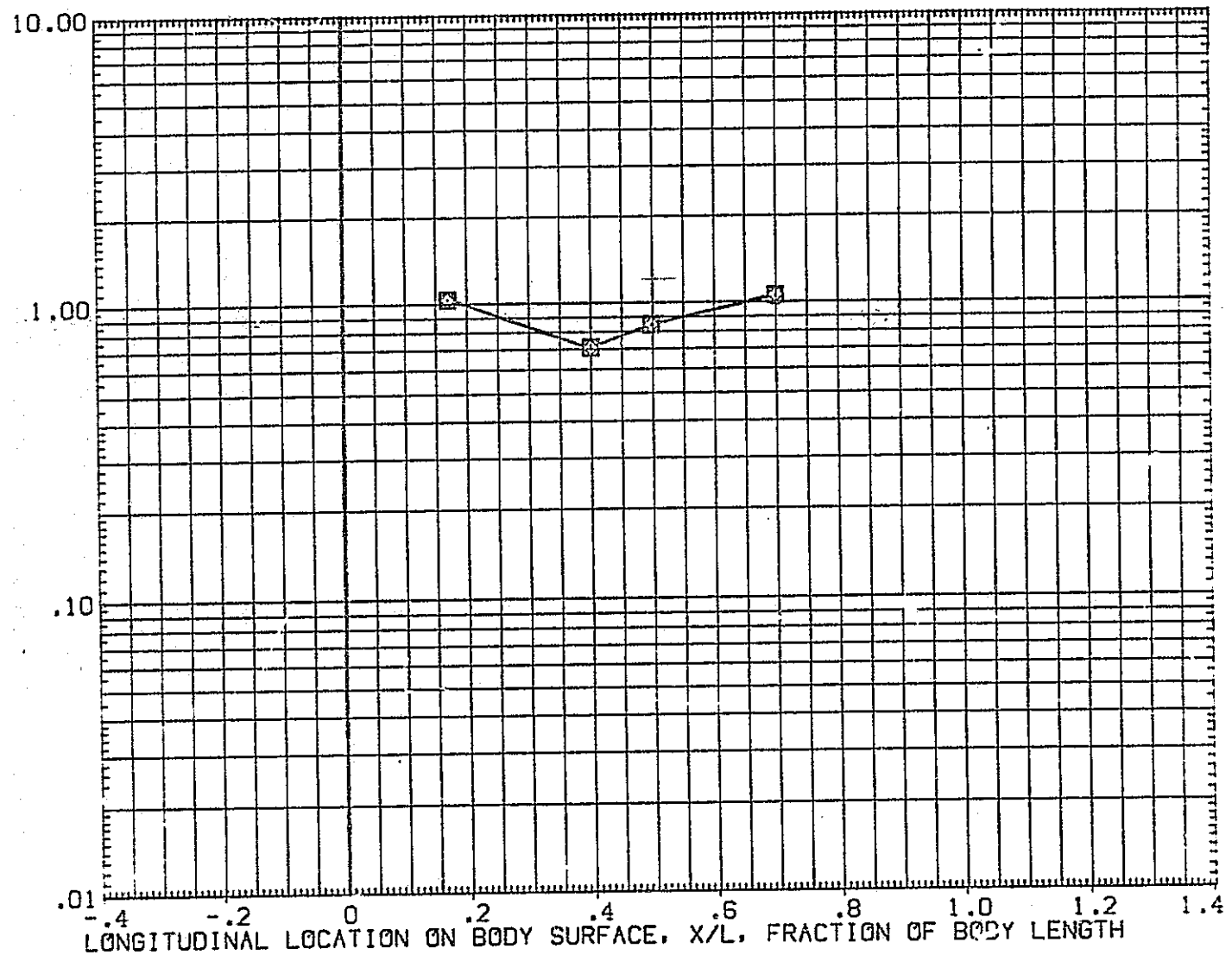


FIG 11 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS ON



# IH19 RATIO (ORB+TANK)/ORB ORBITER UPPER FUSELAGE(DGEU04)

SYMBOL	HAW/HT	Z(VL)	ALPHA
○	.850	375.000	-5.000
□	.900		
◇	1.000		

BETA  
MACH

PARAMETRIC VALUES  
.000 RN/L  
19.800

.500

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF., HI/HU

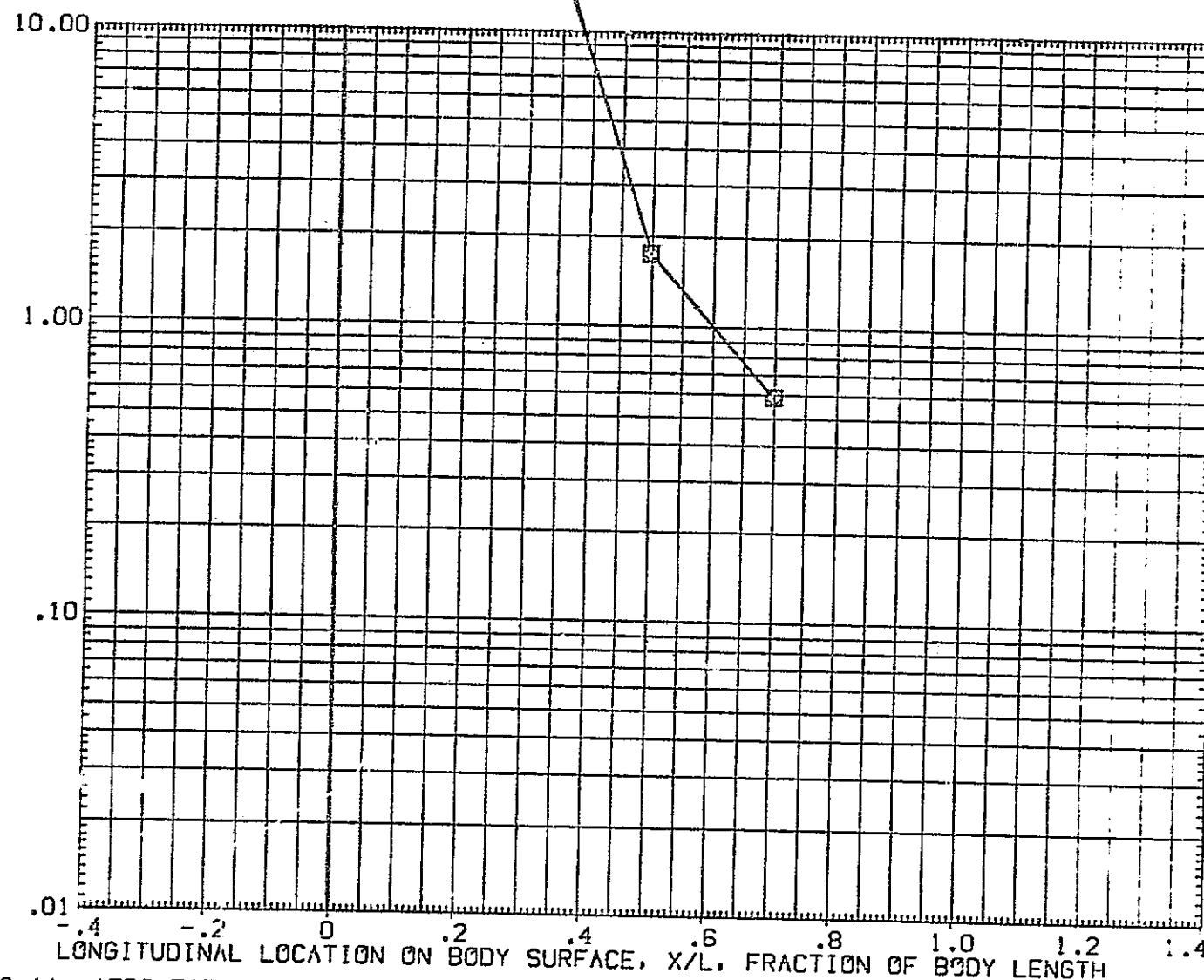


FIG 11 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS ON

# IH19 RATIO (ORB+TANK)/ORB ORBITER UPPER FUSELAGE (DQEU04)

SYMBOL	HAW/HT.	Z(CWL)	ALPHA
○	.850	425.000	-5.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RN/L
MACH	19.800	.500

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $H_i/H_u$

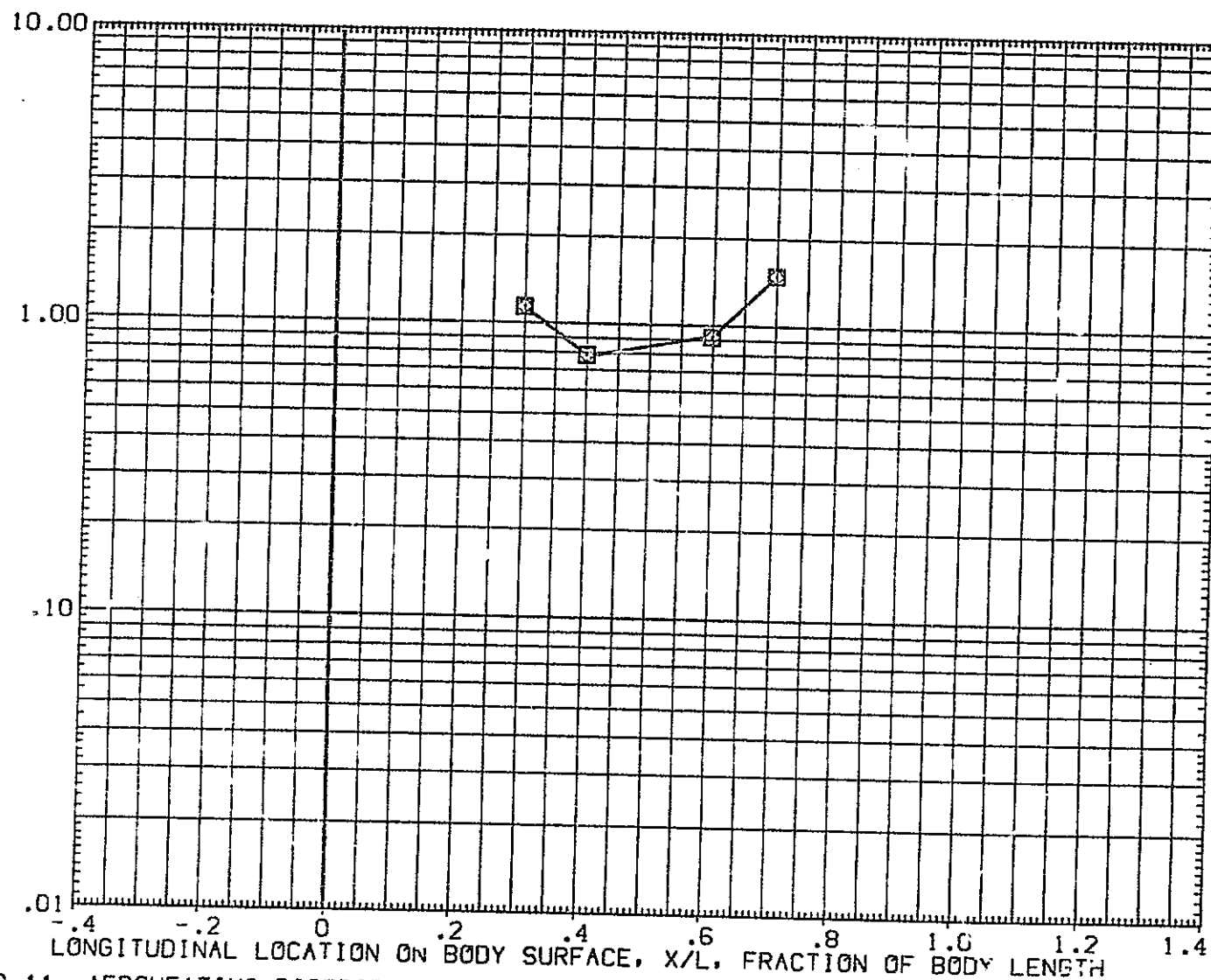


FIG 11 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS ON

# IH19 RATIO (ORB+TANK)/ORB ORBITER UPPER FUSELAGE (DOEU04)

SYMBOL	HAW/HT	Z(WL)	ALPHA
◇	.850	501.000	-5.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	RN/L	
MACH	.000	.500
	19.800	

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.. HI/HU

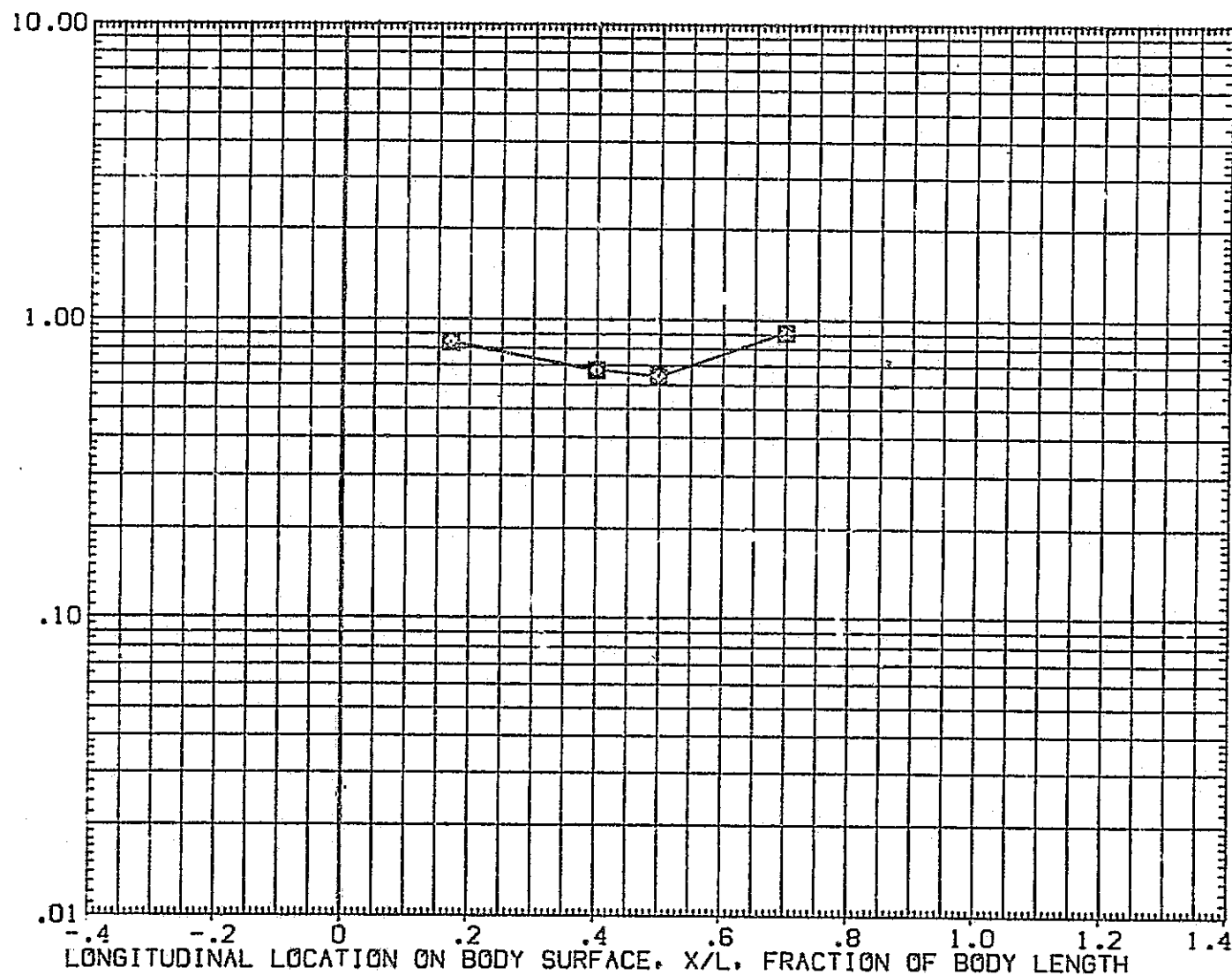


FIG 11 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS ON

# IH19 RATIO (ORB+TANK)/ORB ORBITER UPPER FUSELAGE (DQEU04)

SYMBOL	HAW/HT	Z(WL)	ALPHA
◇	.850	375.000	.000
□	.900		
◇	1.000		

BETA  
MACH

PARAMETRIC VALUES  
.000  
19.800

Re/L

.500

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.. HI/HU

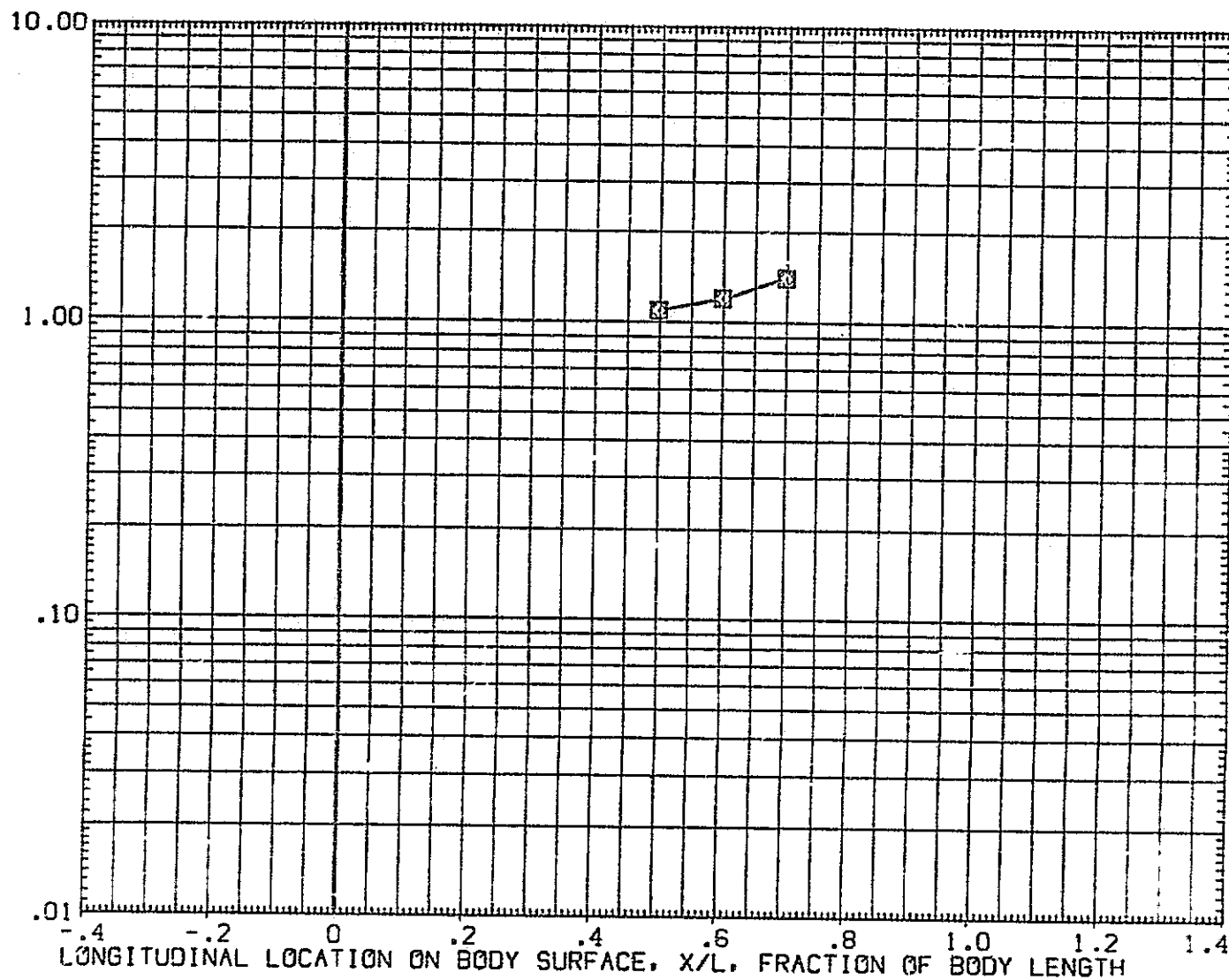


FIG 11 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS ON

# IH19 RATIO (ORB+TANK)/ORB ORBITER UPPER FUSELAGE (DQEU04)

SYMBOL	HAW/HT	Z(WL)	ALPHA
◇	.850	425.000	.000
□	.900		
◇	1.000		

PARAMETRIC VALUES		
BETA	.000	RM/L
MACH	19.800	.500

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $H_i/H_u$

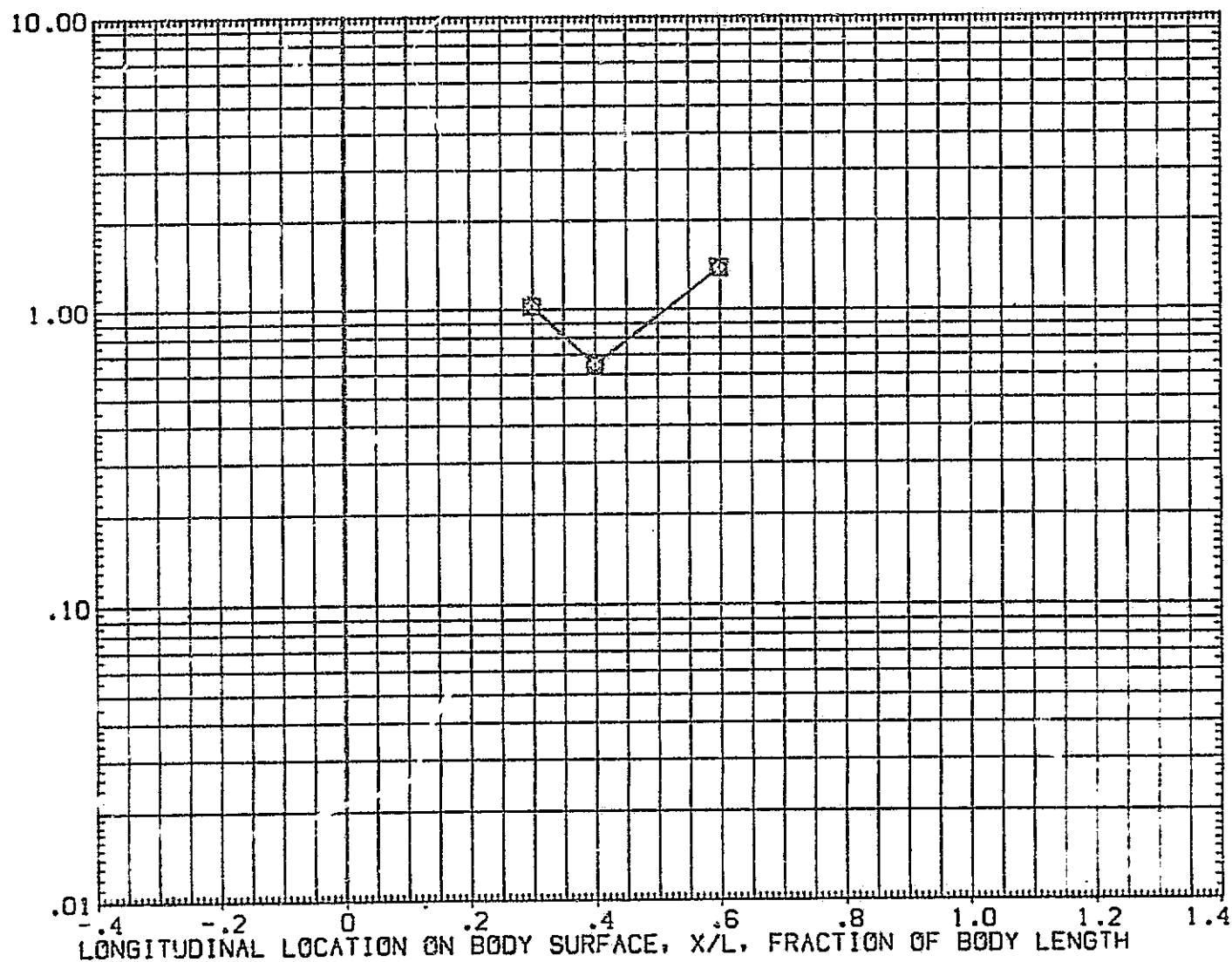


FIG 11 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS ON

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

1H19 RATIO (ORB+TANK)/ORB ORBITER UPPER FUSELAGE (DQEU04)

SYMBOL  
☐ ☐ ☐ ☐

HAW/HT Z(NLJ) ALPHA  
 .850 501.000 .000  
 .900  
 1.000

PARAMETRIC VALUES  
 BETA .000  
 MACH 19.800  
 .500

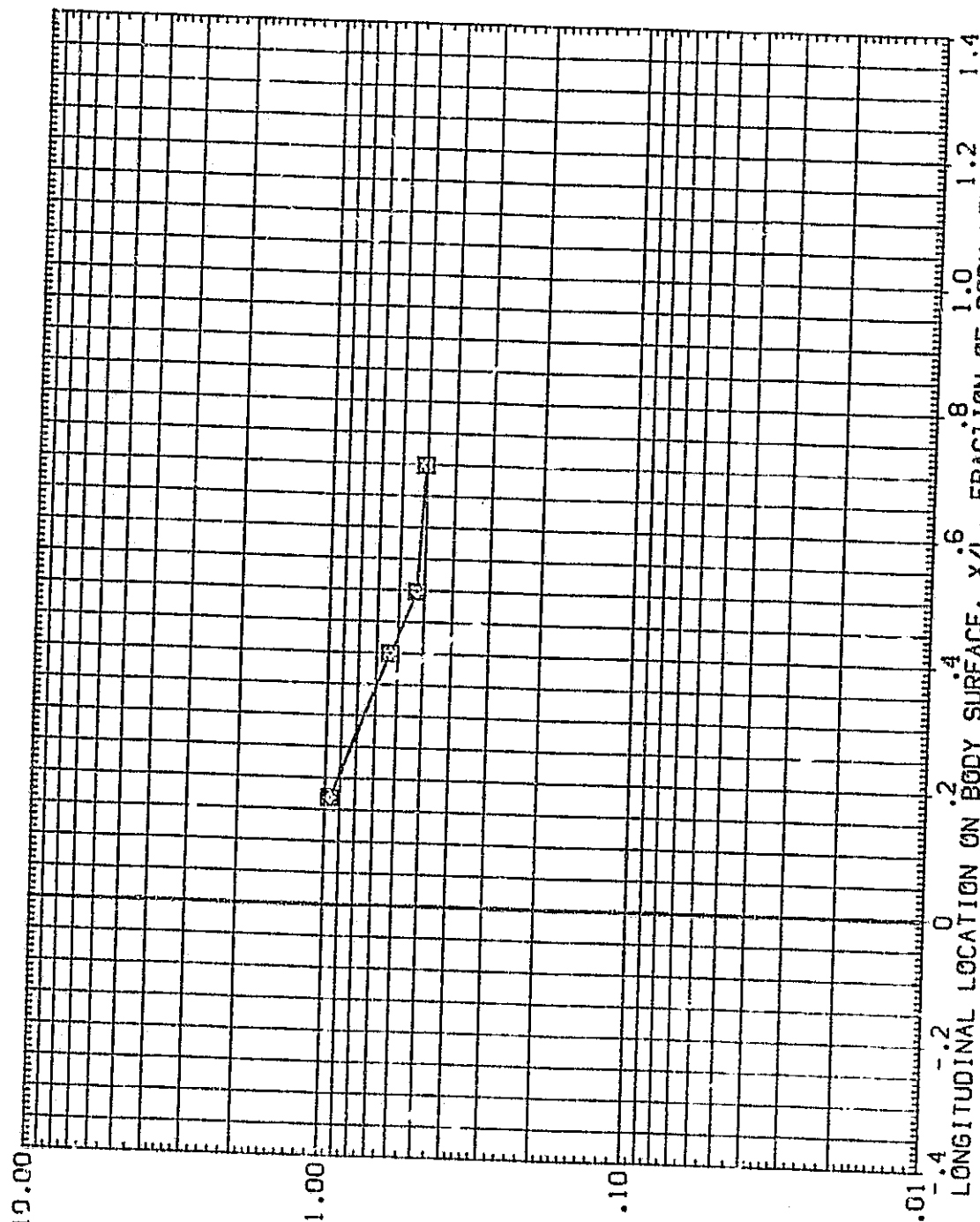


FIG 11 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS ON

# IH19 RATIO (ORB+TANK)/ORB ORBITER UPPER FUSELAGE (DGEUD4)

SYMBOL  
 ○  
 □  
 ◇

HAW/HT .850  
 .900  
 1.000  
 Z(WL) 375.000  
 ALPHA 5.000

BETA  
 MACH

PARAMETRIC VALUES  
 .000 RN/L .500  
 19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $H_i/H_u$

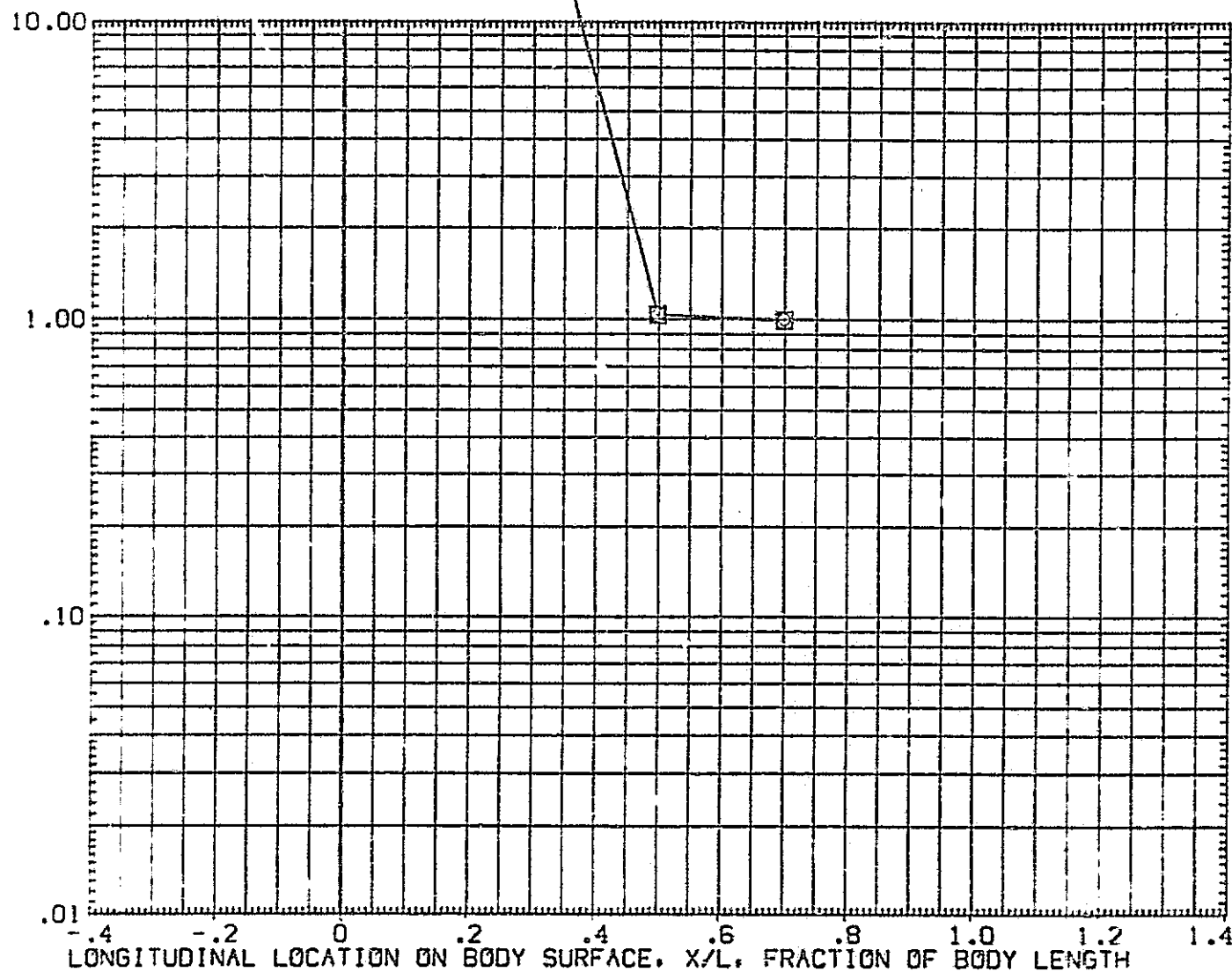


FIG 11 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS ON

# IH19 RATIO (ORB+TANK)/ORB ORBITER UPPER FUSELAGE (DOEU04)

SYMBOL  
 $\diamond$   $\square$   $\square$

HAW/HT  
 .850  
 .900  
 1.000

Z(VL)  
 425.000

ALPHA  
 5.000

BETA  
 MACH

PARAMETRIC VALUES

.000  
 19.800

RN/L

.500

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $H_i/H_u$

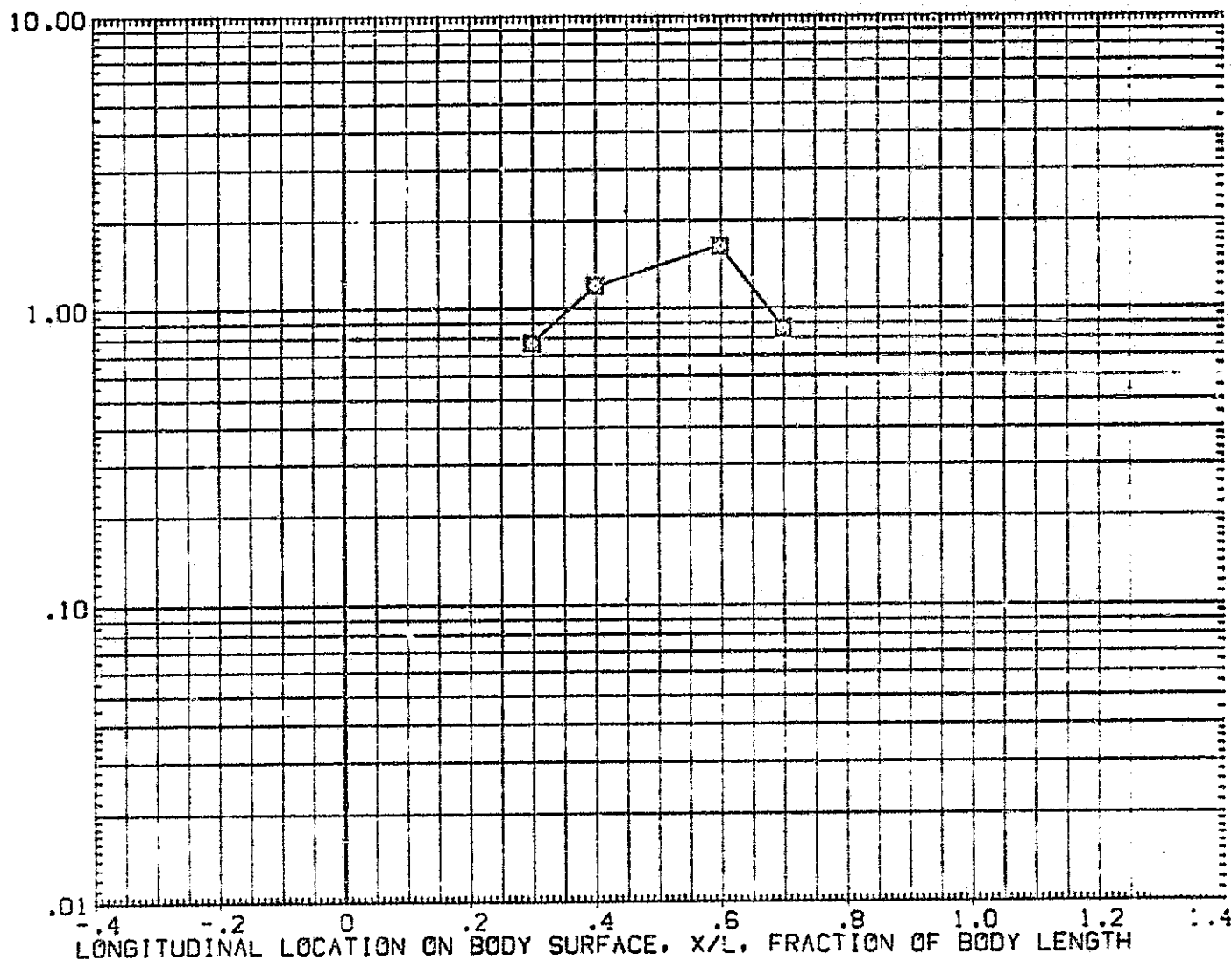


FIG 11 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS ON



# IH19 RATIO (ORB+TANK)/ORB ORBITER UPPER FUSELAGE (DQEU04)

SYMBOL

○  
□  
◇

HAW/HT

.600  
.900  
1.000

Z(WL)

901.000

ALPHA

9.000

BETA

NACH

PARAMETRIC VALUES

.000

RN/L

.500

19.800

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $HI/HU$

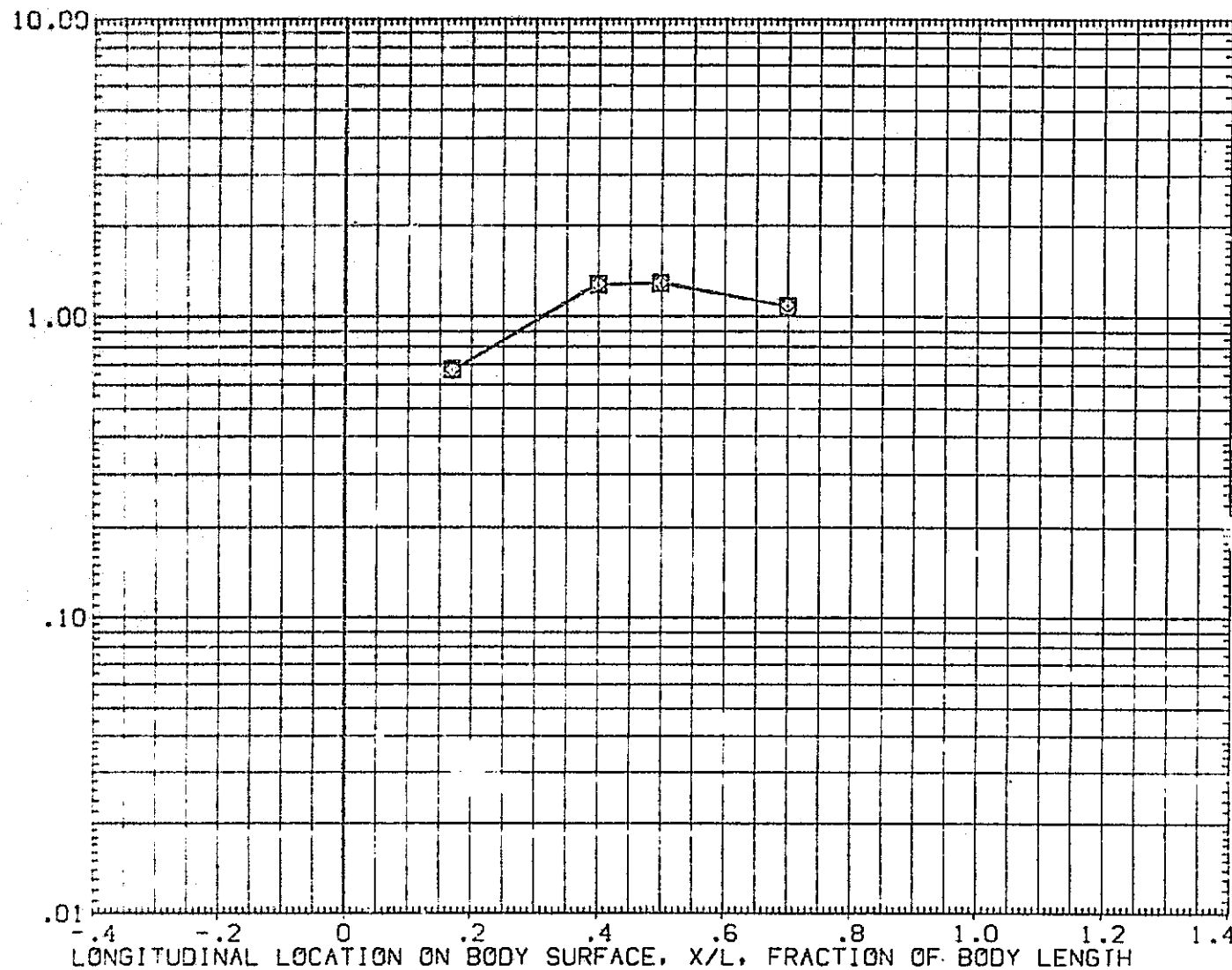


FIG 11 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS ON

## IH19 RATIO (ORB+TANK)/ORB ORBITER UPPER FUSELAGE (DQEU04)

SYMBOL	HAW/HT	Z(WL)	ALPHA
□	.850	375.000	10.000
◇	.900		
	1.000		

PARAMETRIC VALUES		
BETA	RN/L	
	.000	.500
MACH	19.800	

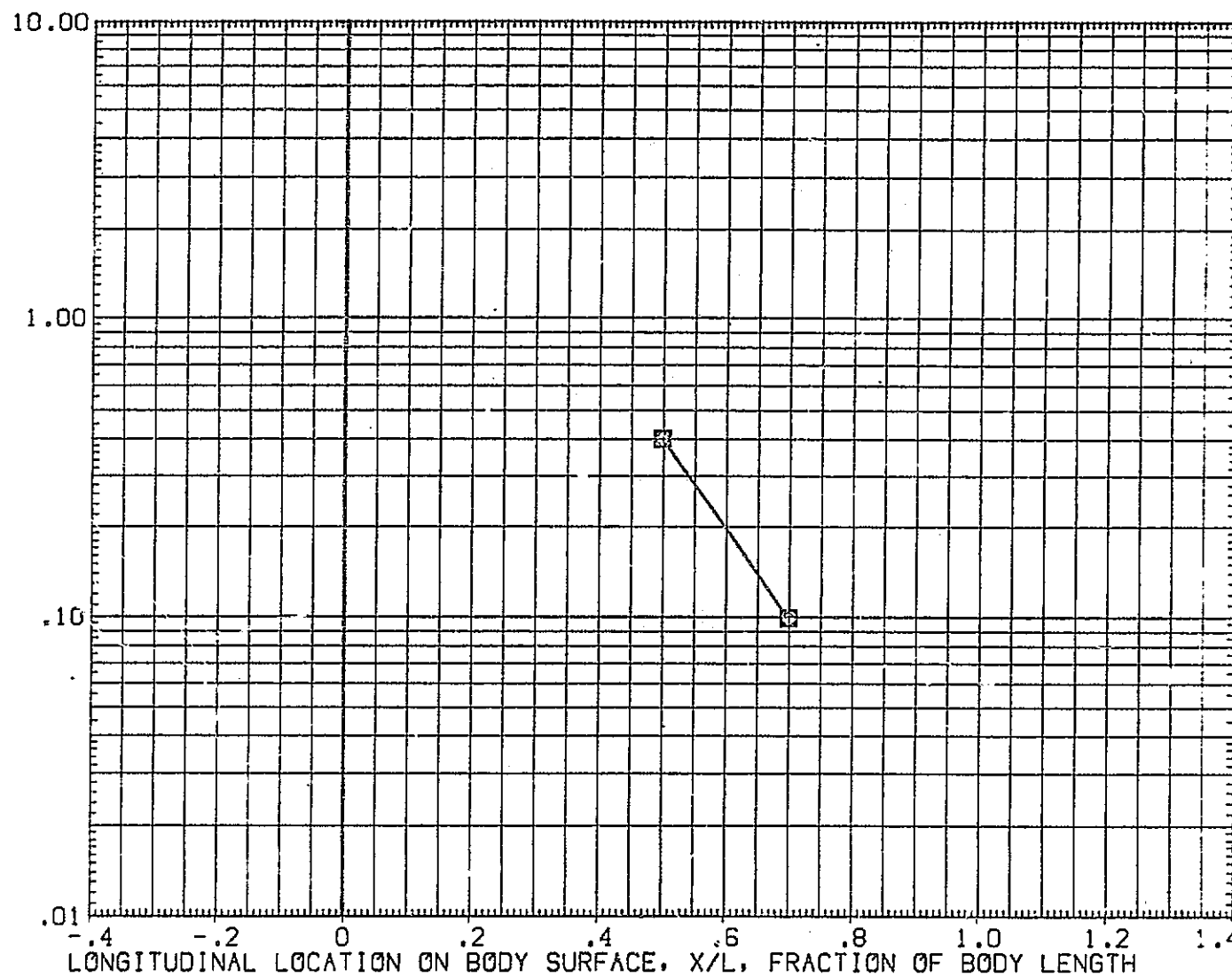
RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $HI/HU$ 

FIG 11 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS ON

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

# IH19 RATIO (ORB+TANK)/ORB ORBITER UPPER FUSELAGE (DQEU04)

SYMBOL	HAW/HT	Z(WL)	ALPHA
◇	.850	425.000	10.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	RN/L	
MACH	.000	.500
	19.800	

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.,  $H_1/H_U$

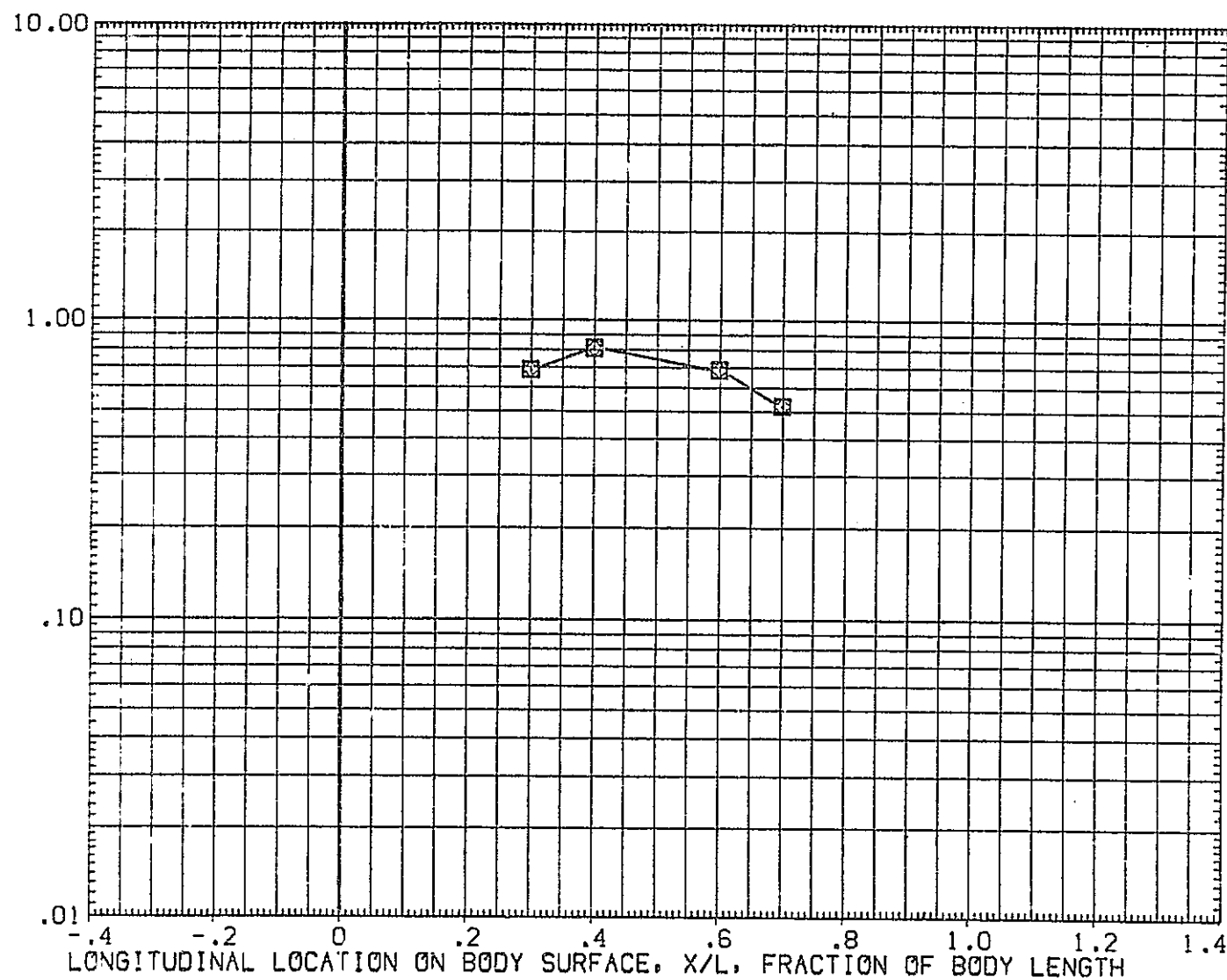


FIG 11 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS ON

# IH19 RATIO (ORB+TANK)/ORB ORBITER UPPER FUSELAGE (DQEU04)

SYMBOL	HAW/HT	Z(WL)	ALPHA
◇	.850	501.000	10.000
□	.900		
○	1.000		

PARAMETRIC VALUES		
BETA	MA	MA
.000	19.800	.500

RATIO OF LOCAL INTERFERENCE TO UNDISTURBED HEAT TRANSFER COEF.. HI/HU

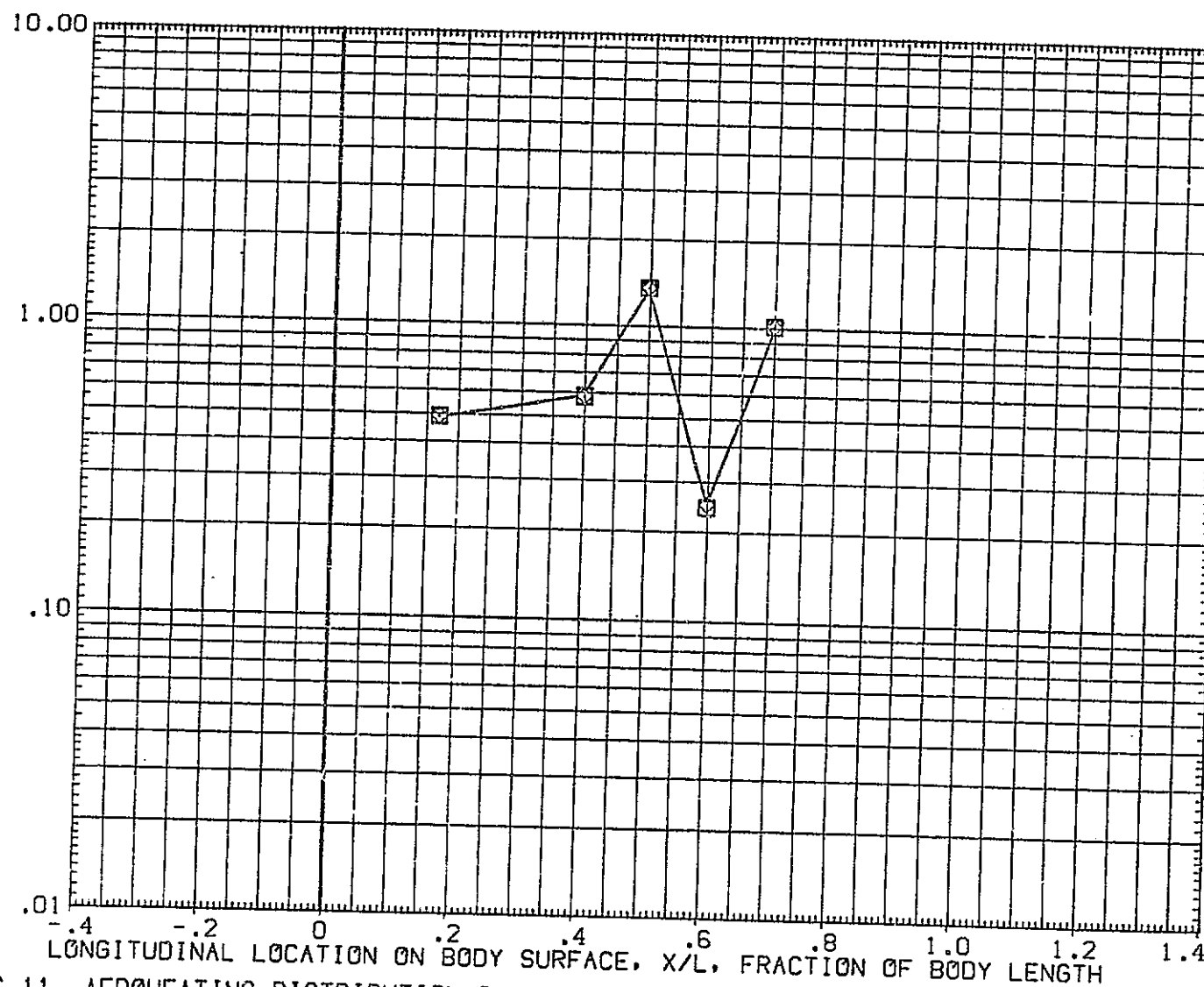


FIG 11 AEROHEATING DISTRIBUTION ON ORBITER UPPER BODY - B.L. TRIPS ON

APPENDIX  
TABULATED SOURCE DATA

Tabulations of plotted data are available on request from  
Data Management Services.

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

PAGE 1

IH19 B22C7F5M4V7H111 TB ORBITER LOWER FUSELAGE

(RQEB03) ( 03 NOV 75 )

REFERENCE DATA

PARAMETRIC DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000  
LREF = 1290.3000 IN. YMRP = .0000  
BREF = 1290.3000 IN. ZMRP = .0000  
SCALE = .0060

BETA = .000 RN/L = .500  
BLTRIP = .000 DELTAH = .175  
MACH = 19.800

ALPHA ( 1 ) = -10.000 HAW/HT( 1 ) = .850 RN/L = .36800 PO = 4011.8 TO = 3009.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.025	.0493
.050	.0236
.075	.0164
.100	.0134
.125	.0122
.150	.0133
.175	.0152
.200	.0152
.250	.0130
.300	.0113
.350	.0099 .0047
.400	.0089 .0051
.450	.0078
.500	***** .0042
.550	.0056
.600	.0044 .0029
.650	.0004
.700	.0017 .0020
.750	.0011
.800	.0007 .0010
.850	*****
.900	.0000 .0008
.950	*****
1.000	.0001 .0006
1.040	.0003

ALPHA ( 1 ) = -10.000 HAW/HT( 2 ) = .900 RN/L = .36900 PO = 4011.8 TO = 3009.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.025	.0458
.050	.0220
.075	.0152
.100	.0125
.125	.0114

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

PAGE 2

IH19 822C7F5M4V7W111 T8 ORBITER LOWER FUSELAGE

(RQEB03)

ALPHA ( 1 ) = -10.000 HAW/HT( 2 ) = .900

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.150	.0124	
.175	.0141	
.200	.0142	
.250	.0121	
.300	.0105	
.350	.0092	.0044
.400	.0083	.0048
.450	.0072	
.500	*****	.0040
.550	.0052	
.600	.0041	.0027
.650	.0004	
.700	.0016	.0019
.750	.0010	
.800	.0006	.0009
.850	*****	
.900	.0000	.0007
.950	*****	
1.000	.0001	.0006
1.040	.0003	

ALPHA ( 1 ) = -10.000 HAW/HT( 3 ) = 1.000 RN/L = .36800 PO = 4011.8 TO = 3009.6 HO = .5:000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.025	.0400	
.050	.0193	
.075	.0134	
.100	.0110	
.125	.0100	
.150	.0108	
.175	.0124	
.200	.0124	
.250	.0106	
.300	.0092	
.350	.0081	.0038
.400	.0073	.0042
.450	.0064	
.500	*****	.0035
.550	.0046	
.600	.0036	.0023
.650	.0003	

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DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-2B (IH19)

PAGE 3

IH19 B22C7F5M4V7H111 T8 ORBITER LOWER FUSELAGE

(ROEB03)

ALPHA ( 1 ) = -10.000 HAW/HT( 3 ) = 1.000

SECTION ( 1 ) BODY DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L		
.700	.0004	.0016
.750	.0009	
.800	.0006	.0008
.850	*****	
.900	.0000	.0006
.950	*****	
1.000	.0001	.0005
1.040	.0003	

ALPHA ( 2 ) = -5.000 HAW/HT( 1 ) = .850 RN/L = .38200 PO = 4022.3 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) BODY DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L		
.025	.0402	
.050	.0219	
.075	.0150	
.100	.0114	
.125	.0100	
.150	.0104	
.175	.0118	
.200	.0113	
.250	.0098	
.300	.0080	
.350	.0069	.0031
.400	.0054	.0033
.450	.0046	
.500	*****	.0027
.550	.0026	
.600	.0014	.0013
.650	*****	
.700	.0002	.0010
.750	*****	
.800	*****	.0003
.850	*****	
.900	*****	.0002
.950	*****	
1.000	*****	.0012
1.040	.0002	



DATE 03 NOV 75

TABULATED SOURCE DATA - LAGR N2-28 (IH19)

PAGE 4

IH19 B22C7F5M4V7H111 T8 ORBITER LOWER FUSELAGE

(RDEB03)

ALPHA ( 2) = -5.000 HAW/HT( 2) = .500 RN/L = .38200 PO = 4022.3 TO = 2959.6 HO = .51000-01

SECTION ( 1) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.025	.0373	
.050	.0204	
.075	.0140	
.100	.0106	
.125	.0093	
.150	.0097	
.175	.0110	
.200	.0105	
.250	.0091	
.300	.0075	
.350	.0064	.0029
.400	.0050	.0031
.450	.0043	
.500	*****	.0026
.550	.0025	
.600	.0013	.0012
.650	*****	
.700	.0002	.0009
.750	*****	
.800	*****	.0003
.850	*****	
.900	*****	.0002
.950	*****	
1.000	*****	.0011
1.040	.0002	

ALPHA ( 2) = -5.000 HAW/HT( 3) = 1.000 RN/L = .38200 PO = 4022.3 TO = 2959.6 HO = .51000-01

SECTION ( 1) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.025	.0326	
.050	.0179	
.075	.0122	
.100	.0093	
.125	.0082	
.150	.0085	
.175	.0096	
.200	.0092	
.250	.0080	
.300	.0066	
.350	.0056	.0025
.400	.0044	.0027

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-23 (IH19)

PAGE 5

IH19 B22C7F5M4V7W111 TB ORBITER LOWER FUSELAGE

(RQEB03)

ALPHA ( 2 ) = -5.000 HAH/HT( 3 ) = 1.000

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.450	.0037	
.500	*****	.0022
.550	.0022	
.600	.0012	.0011
.650	*****	
.700	.0001	.0008
.750	*****	
.800	*****	.0002
.850	*****	
.900	*****	.0002
.950	*****	
1.000	*****	.0010
1.040	.0002	

ALPHA ( 3 ) = .000 HAH/HT( 1 ) = .850 RN/L = .36500 PO = 4066.2 TO = 3039.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.025	.0411	
.050	.0160	
.075	.0094	
.100	.0061	
.125	.0073	
.150	.0099	
.175	.0105	
.200	.0102	
.250	.0082	
.300	.0063	
.350	.0052	.0036
.400	.0033	.0036
.450	.0013	
.500	*****	.0027
.550	.0008	
.600	.0002	.0001
.650	.0000	
.700	*****	.0009
.750	.0001	
.800	*****	.0006
.850	*****	
.900	*****	.0005
.950	*****	
1.000	.0004	.0001

DATE 03 NOV 75

TABULATED SOURCE DATA - LAGR N2-26 (IH19)

PAGE 5

IH19 B22C7F5M4V7H111 T6 ORBITER LOWER FUSELAGE

(ROEB03)

ALPHA ( 3) = .000 HAW/HT( 1) = .850

SECTION ( 1) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

1.040 \*\*\*\*\*

ALPHA ( 3) = .000 HAW/HT( 2) = .900 RN/L = .36500 PO = 4066.2 TO = 3039.6 HO = .51000-01

SECTION ( 1) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.025	.0383	
.050	.0149	
.075	.0087	
.100	.0057	
.125	.0068	
.150	.0092	
.175	.0098	
.200	.0095	
.250	.0076	
.300	.0059	
.350	.0048	.0035
.400	.0030	.0034
.450	.0012	
.500	*****	.0025
.550	.0007	
.600	.0002	.0001
.650	.0000	
.700	*****	.0008
.750	.0001	
.800	*****	.0005
.850	*****	
.900	*****	.0005
.950	*****	
1.000	.0004	.0001
1.040	*****	

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-2B (IH19)

PAGE 7

IH19 B22C7F5M4V7W111 T8 ORBITER LOWER FUSELAGE

(RQEB03)

ALPHA ( 3 ) = .000 HAW/HT( 3 ) = 1.000 RN/L = .36500 PO = 4066.2 TO = 3039.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.025	.0336	
.050	.0131	
.075	.0077	
.100	.0050	
.125	.0060	
.150	.0081	
.175	.0086	
.200	.0083	
.250	.0057	
.300	.0052	
.350	.0042	.0031
.400	.0027	.0029
.450	.0010	
.500	*****	.0022
.550	.0006	
.600	.0002	.0001
.650	.0000	
.700	*****	.0007
.750	.0001	
.800	*****	.0004
.850	*****	
.900	*****	.0004
.950	*****	
1.000	.0003	.0001
1.040	*****	

ALPHA ( 4 ) = 5.000 HAW/HT( 4 ) = .850 RN/L = .36200 PO = 4029.4 TO = 3039.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.025	.0276	
.050	.0082	
.075	.0041	
.100	.0055	
.125	.0061	
.150	.0064	
.175	.0057	
.200	.0050	
.250	.0037	
.300	.0023	
.350	.0012	.0033
.400	.0010	.0031

DATE 03 NOV 75

TABULATED SOURCE DATA - LAGR N2-28 (IH19)

PAGE 8

IH19 B22C7F5M4V7H111 TB ORBITER LOWER FUSELAGE

(RCEB03)

ALPHA ( 4 ) = 5.000 HAH/HT( 1 ) = .850

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.450	*****	
.500	*****	.0014
.550	.0000	
.600	*****	.0007
.650	*****	
.700	.0002	.0007
.750	*****	
.800	*****	.0006
.850	*****	
.900	*****	.0008
.950	*****	
1.000	.0001	.0008
1.040	.0001	

ALPHA ( 4 ) = 5.000 HAH/HT( 2 ) = .900 RN/L = .36200 PO = 4029.4 TO = 3039.8 HO = .51009-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.025	.0257	
.050	.0077	
.075	.0038	
.100	.0051	
.125	.0057	
.150	.0059	
.175	.0053	
.200	.0046	
.250	.0028	
.300	.0022	
.350	.0011	.0030
.400	.0010	.0029
.450	*****	
.500	*****	.0013
.550	.0000	
.600	*****	.0007
.650	*****	
.700	.0002	.0007
.750	*****	
.800	*****	.0005
.850	*****	
.900	*****	.0008
.950	*****	
1.000	.0001	.0007

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR A2-28 (1H19)

PAGE 9

1H19 82207F5M4V7W111 TS ORBITER LOWER FUSELAGE

(RCEB03)

ALPHA ( 4 ) = 5.000 HAW/HT( 2 ) = .900

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L  
1.040 .0001

ALPHA ( 4 ) = 5.000 HAW/HT( 2 ) = 1.000 RN/L = .36200 PO = 4029.4 TO = 3039.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L  
.025 .0226  
.050 .0067  
.075 .0033  
.100 .0045  
.125 .0050  
.150 .0052  
.175 .0047  
.200 .0041  
.250 .0024  
.300 .0019  
.350 .0010 .0027  
.400 .0008 .0025  
.450 \*\*\*\*\*  
.500 \*\*\*\*\* .0011  
.550 .0000  
.600 \*\*\*\*\* .0006  
.650 \*\*\*\*\*  
.700 .0001 .0006  
.750 \*\*\*\*\*  
.800 \*\*\*\*\* .0005  
.850 \*\*\*\*\*  
.900 \*\*\*\*\* .0007  
.950 \*\*\*\*\*  
1.000 .0001 .0007  
1.040 .0001

DATE 03 NOV 75

## TABULATED SOURCE DATA - LACR N2-28 (IH19)

PAGE 10

IH19 B22C7F5H4V7H111 T8 ORBITER LOWER FUSELAGE

(RQEB03)

ALPHA ( 5) = 10.000 HAH/HT( 1) = .850 RN/L = .36900 PO = 4027.6 TO = 3009.6 HO = .51000-01

SECTION ( 1) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.025	.0119	
.050	.0050	
.075	.0034	
.100	.0033	
.125	.0029	
.150	.0023	
.175	.0022	
.200	.0014	
.250	.0004	
.300	.0005	
.350	.0003	.0018
.400	.0000	.0014
.450	.0001	
.500	*****	.0009
.550	*****	
.600	*****	.0002
.650	*****	
.700	.0000	.0004
.750	.0001	
.800	.0001	.0002
.850	*****	
.900	.0000	.0008
.950	*****	
1.000	.0002	.0004
1.040	.0003	

ALPHA ( 5) = 10.000 HAH/HT( 2) = .900 RN/L = .36900 PO = 4027.6 TO = 3009.6 HO = .51000-01

SECTION ( 1) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.025	.0111	
.050	.0047	
.075	.0032	
.100	.0031	
.125	.0027	
.150	.0021	
.175	.0020	
.200	.0013	
.250	.0004	
.300	.0004	
.350	.0002	.0017
.400	.0000	.0013

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 B22C7F5M4V7W111 TB ORBITER LOWER FUSELAGE

(RQEB03)

ALPHA ( 5) = 10.000 HAW/HT( 2) = .900

SECTION ( 1) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.450	.0001	
.500	*****	.0008
.550	*****	
.600	*****	.0002
.650	*****	
.700	.0000	.0004
.750	.0001	
.800	.0001	.0001
.850	*****	
.900	.0000	.0007
.950	*****	
1.000	.0002	.0004
1.040	.0003	

ALPHA ( 5) = 10.000 HAW/HT( 3) = 1.000 RN/L = .36900 PO = 4027.6 TO = 3009.6 HO = .51000-01

SECTION ( 1) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.025	.0097	
.050	.0041	
.075	.0028	
.100	.0027	
.125	.0023	
.150	.0019	
.175	.0018	
.200	.0011	
.250	.0003	
.300	.0004	
.350	.0002	.0015
.400	.0000	.0011
.450	.0001	
.500	*****	.0007
.550	*****	
.600	*****	.0002
.650	*****	
.700	.0000	.0003
.750	.0001	
.800	.0001	.0001
.850	*****	
.900	.0000	.0006
.950	*****	
1.000	.0001	.0004



DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

PAGE 12

IH19 B22C7F5M4V7W111 T8 ORBITER LOWER FUSELAGE

(RQEB03)

ALPHA ( 5) = 10.000 HAW/HT( 3) = 1.000

SECTION ( 1) BODY

DEPENDENT VARIABLE H/MREF

Y(BP) .0000117.0000

X/L  
1.040 .0002

DATE 03 NOV 75

## TABULATED SOURCE DATA - LACR N2-28 (IH19)

PAGE 13

IH19 B22C7F5M4V7H111 T8 ORBITER LOWER FUSELAGE

(RQEB04) ( 03 NOV 75 )

## REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000  
 LREF = 1290.3000 IN. YMRP = .0000  
 BREF = 1290.3000 IN. ZMRP = .0000  
 SCALE = .0060

## PARAMETRIC DATA

BETA = .000 RN/L = .500  
 BLTRIP = .030 DELTAH = .175  
 MACH = 19.800

ALPHA ( 1 ) = -10.000 HAW/HT( 1 ) = .850 RN/L = .37900 PO = 3992.5 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.025	.0533
.050	.0232
.075	.0159
.100	.0127
.125	.0102
.150	.0119
.175	.0165
.200	.0177
.250	.0159
.300	.0135
.350	.0126
.400	.0113
.450	.0101
.500	.0055
.550	.0071
.600	.0053
.650	.0010
.700	.0018
.750	.0013
.800	.0006
.850	.0019
.900	.0009
.950	.0001
1.000	.0002
1.040	.0004

ALPHA ( 1 ) = -10.000 HAW/HT( 2 ) = .900 RN/L = .37900 PO = 3992.5 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.025	.0495
.050	.0216
.075	.0148
.100	.0118
.125	.0095

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

PAGE 14

IH19 B22C7F5M4V7H111 TB ORBITER LOWER FUSELAGE

(RQEB04)

ALPHA ( 1 ) = -10.000 HAN/HT( 2 ) = .900

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.150	.0111	
.175	.0154	
.200	.0164	
.250	.0148	
.300	.0127	
.350	.0117	.0046
.400	.0105	.0333
.450	.0094	
.500	*****	.0052
.550	.0066	
.600	.0049	.0041
.650	.0009	
.700	.0017	.0026
.750	.0012	
.800	.0005	.0017
.850	*****	
.900	*****	.0008
.950	.0001	
1.000	.0002*****	
1.040	.0004	

ALPHA ( 1 ) = -10.000 HAN/HT( 3 ) = 1.000 RN/L = .37900 PO = 3992.5 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.025	.0434	
.050	.0189	
.075	.0130	
.100	.0104	
.125	.0083	
.150	.0097	
.175	.0135	
.200	.0144	
.250	.0130	
.300	.0111	
.350	.0103	.0040
.400	.0093	.0046
.450	.0082	
.500	*****	.0045
.550	.0058	
.600	.0043	.0036
.650	.0007	

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

PAGE 15

1H19 822C7F5M4V7W111 TO ORBITER LOWER FUSELAGE

(RQEB04)

ALPHA ( 1 ) = -10.000 HAW/HT( 3 ) = 1.000

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.700	.0015	.0022
.750	.0010	
.800	.0005	.0015
.850	*****	
.900	*****	.0007
.950	.0001	
1.000	.0002*****	
1.040	.0003	

ALPHA ( 2 ) = -5.000 HAW/HT( 1 ) = .850 RN/L = .38000 PO = 4032.9 TO = 2969.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.025	.0430	
.050	.0176	
.075	.0129	
.100	.0096	
.125	.0079	
.150	.0093	
.175	.0118	
.200	.0131	
.250	.0113	
.300	.0095	
.350	.0084	.0041
.400	.0068	.0041
.450	.0054	
.500	*****	.0036
.550	.0028	
.600	.0019	.0025
.650	.0009	
.700	.0005	.0013
.750	.0003	
.800	.0005	.0005
.850	*****	
.900	.0003	.0004
.950	*****	
1.000	*****	.0003
1.040	.0000	

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

PAGE 16

IH19 B22C7F5M4V7W111 T8 ORBITER LOWER FUSELAGE

(H0E904)

ALPHA ( 2 ) = -5.000 HAW/HT( 2 ) = .900 RN/L = .38000 PO = 4032.9 TO = 2969.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.025	.0400	
.050	.0164	
.075	.0120	
.100	.0030	
.125	.0073	
.150	.0087	
.175	.0110	
.200	.0122	
.250	.0106	
.300	.0088	
.350	.0079	.0038
.400	.0063	.0038
.450	.0050	
.500	*****	.0033
.550	.0026	
.600	.0017	.0024
.650	.0008	
.700	.0004	.0012
.750	.0003	
.800	.0004	.0004
.850	*****	
.900	.0003	.0004
.950	*****	
1.000	*****	.0002
1.040	.0000	

ALPHA ( 2 ) = -5.000 HAW/HT( 3 ) = 1.000 RN/L = .38000 PO = 4032.9 TO = 2969.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.025	.0351	
.050	.0144	
.075	.0105	
.100	.0079	
.125	.0064	
.150	.0076	
.175	.0096	
.200	.0107	
.250	.0093	
.300	.0077	
.350	.0069	.0033
.400	.0055	.0033

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

PAGE 17

IH19 B22C7F5M4V7H111 TB ORBITER LOWER FUSELAGE

(RQEB04)

ALPHA ( 2 ) = -5.000 HAW/HT( 3 ) = 1.000

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L		
.450	.0044	
.500	*****	.0029
.550	.0023	
.600	.0015	.0021
.650	.0007	
.700	.0004	.0011
.750	.0003	
.800	.0004	.0004
.850	*****	
.900	.0002	.0003
.950	*****	
1.000	*****	.0002
1.040	.0000	

ALPHA ( 3 ) = .000 HAW/HT( 1 ) = .850 RN/L = .36000 PO = 4013.6 TO = 3039.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L		
.025	.0332	
.050	.0148	
.075	.0086	
.100	.0064	
.125	.0067	
.150	.0072	
.175	.0082	
.200	.0084	
.250	.0067	
.300	.0048	
.350	.0033	.0033
.400	.0022	.0032
.450	.0011	
.500	*****	.0020
.550	.0004	
.600	*****	.0010
.650	*****	
.700	.0002	.0005
.750	.0001	
.800	*****	.0006
.850	*****	
.900	*****	.0007
.950	*****	
1.000	.0002	.0001

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (1H19)

PAGE 18

1H19 B22C7F5M4V7H111 T8 ORBITER LOWER FUSELAGE

(RQEB04)

ALPHA ( 3 ) = .000 HAW/HT( 1 ) = .850

SECTION ( 1 ) BODY DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L  
1.040 \*\*\*\*\*

ALPHA ( 3 ) = .000 HAW/HT( 2 ) = .900 RN/L = .36000 PO = 4013.6 TO = 3039.6 HO = .51000-01

SECTION ( 1 ) BODY DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L  
.025 .0309  
.050 .0138  
.075 .0080  
.100 .0059  
.125 .0063  
.150 .0067  
.175 .0076  
.200 .0078  
.250 .0063  
.300 .0045  
.330 .0031 .0030  
.400 .0020 .0030  
.450 .0010  
.500 \*\*\*\*\* .0019  
.550 .0004  
.600 \*\*\*\*\* .0009  
.650 \*\*\*\*\*  
.700 .0001 .0004  
.750 .0001  
.800 \*\*\*\*\* .0006  
.850 \*\*\*\*\*  
.900 \*\*\*\*\* .0007  
.950 \*\*\*\*\*  
1.000 .0002 .0001  
1.040 \*\*\*\*\*

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TABULATED SOURCE DATA - LAGR N2-28 (IH19)

PAGE 19

IH19 B22C7F5M4V7H111 T8 ORBITER LOWER FUSELAGE

(RQEG04)

ALPHA ( 3 ) = .000 HAW/HT( 3 ) = 1.000 RN/L = .36000 PO = 4013.6 TO = 3039.6 HO = .51000-01

SECTION ( 11800Y

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.025	.0271	
.050	.0121	
.075	.0070	
.100	.0052	
.125	.0035	
.150	.0028	
.175	.0027	
.200	.0023	
.250	.0015	
.300	.0009	
.350	.0027	.0027
.400	.0018	.0026
.450	.0009	
.500	*****	.0017
.550	.0003	
.600	*****	.0008
.650	*****	
.700	.0001	.0004
.750	.0001	
.800	*****	.0005
.850	*****	
.900	*****	.0006
.950	*****	
1.000	.0002	.0001
1.040	*****	

ALPHA ( 4 ) = 5.000 HAW/HT( 1 ) = .830 RN/L = .37900 PO = 4020.6 TO = 2969.6 HO = .51000-01

SECTION ( 11800Y

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.025	.0235	
.050	.0101	
.075	.0054	
.100	.0051	
.125	.0054	
.150	.0054	
.175	.0050	
.200	.0047	
.250	.0026	
.300	.0019	
.350	.0009	.0025
.400	.0006	.0027



DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 022075H4V7H111 TB ORBITER LOWER FUSELAGE

(R02004)

ALPHA ( 4 ) = 5.000 HAW/HT( 1 ) = .850

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.450	*****	
.500	*****	.0017
.550	.0000	
.600	.0000	.0006
.650	.0003	
.700	*****	.0005
.750	.0000	
.800	*****	.0006
.850	*****	
.900	.0002	.0009
.950	.0004	
1.000	.0002	.0005
1.040	.0003	

ALPHA ( 4 ) = 5.000 HAW/HT( 2 ) = .900 RN/L = .37900 PO = 4020.6 TO = 2969.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.025	.0218	
.050	.0094	
.075	.0050	
.100	.0048	
.125	.0050	
.150	.0050	
.175	.0047	
.200	.0044	
.250	.0026	
.300	.0018	
.350	.0008	.0024
.400	.0006	.0025
.450	*****	
.500	*****	.0016
.550	.0000	
.600	.0000	.0006
.650	.0008	
.700	*****	.0004
.750	.0000	
.800	*****	.0006
.850	*****	
.900	.0002	.0009
.950	.0004	
1.000	.0002	.0004

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19) .

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IH19 822C7F5M4V7H111 T8 ORBITER LOWER FUSELAGE

(ROEB04)

ALPHA ( 4) = 5.000 HAW/HT ( 2) = .900

SECTION ( 1) BODY DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L  
1.040 .0003

ALPHA ( 4) = 5.000 HAW/HT ( 3) = 1.000 RN/L = .37900 PO = 4020.6 TO = 2969.6 HG = .51000-01

SECTION ( 1) BODY DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L	H/HREF
.025	.0192
.050	.0082
.075	.0044
.100	.0042
.125	.0044
.150	.0044
.175	.0041
.200	.0039
.250	.0023
.300	.0015
.350	.0007
.400	.0005
.450	.0021
.500	.0022
.550	.0014
.600	.0000
.650	.0005
.700	.0006
.750	.0004
.800	.0000
.850	.0005
.900	.0001
.950	.0008
1.000	.0001
1.040	.0004

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TABULATED SOURCE DATA - LACR N2-78 (IH19)

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IH19 B22C7F5M4V7H111 TS ORBITER LOWER FUSELAGE

(RQEB04)

ALPHA ( 5) = 10.000 HAW/HT( 1) = .850 RN/L = .36900 PO = 3967.9 TO = 2989.6 HO = .51000-01

SECTION ( 1) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.025	.0100	
.050	.0045	
.075	.0032	
.100	.0024	
.125	.0023	
.150	.0015	
.175	.0014	
.200	.0008	
.250	.0007	
.300	.0003	
.350	.0002	.0012
.400	*****	.0012
.450	*****	
.500	.0001	.0007
.550	*****	
.600	.0000	*****
.650	*****	
.700	.0002	.0000
.750	*****	
.800	*****	.0002
.850	*****	
.900	.0001	.0006
.950	*****	
1.000	*****	.0003
1.040	.0003	

ALPHA ( 5) = 10.000 HAW/HT( 2) = .900 RN/L = .36900 PO = 3967.9 TO = 2989.6 HO = .51000-01

SECTION ( 1) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.025	.0093	
.050	.0042	
.075	.0030	
.100	.0022	
.125	.0021	
.150	.0014	
.175	.0013	
.200	.0008	
.250	.0007	
.300	.0002	
.350	.0002	.0011
.400	*****	.0012

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TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 B22C7F5M4V7W111 TB ORBITER LOWER FUSELAGE

(RDEB04)

ALPHA ( 5) = 10.000 HAW/HT( 2) = .900

SECTION ( 1) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.450	*****	
.500	.0001	.0007
.550	*****	
.600	.0000*****	
.650	*****	
.700	.0001	.0000
.750	*****	
.800	*****	.0002
.850	*****	
.900	.0001	.0005
.950	*****	
1.000	*****	.0003
1.040	.0003	

ALPHA ( 5) = 10.000 HAW/HT( 3) = 1.000 RN/L = .36900 PO = 3967.9 TO = 2989.6 HO = .51000-01

SECTION ( 1) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.025	.0082	
.050	.0037	
.075	.0026	
.100	.0020	
.125	.0019	
.150	.0013	
.175	.0011	
.200	.0006	
.250	.0002	
.300	.0001	.0010
.350	.0001	.0010
.400	*****	
.450	*****	
.500	.0001	.0005
.550	*****	
.600	.0000*****	
.650	*****	
.700	.0001	.0000
.750	*****	
.800	*****	.0002
.850	*****	
.900	.0001	.0005
.950	*****	
1.000	*****	.0002

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TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 822C7F5M4V7W111 T8 ORBITER LOWER FUSELAGE

(RQEB04)

ALPHA ( 5) \* 10.000 HAH/HT( 3) \* 1.000

SECTION ( 1) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L  
1.040 .0002

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TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 B22C7F5M4V7W111

ORBITER LOWER FUSELAGE

(RQEB05) ( 03 NOV 75 )

## REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0300  
 LREF = 1290.3000 IN. YMRP = .0000  
 BREF = 1290.3000 IN. ZMRP = .0000  
 SCALE = .0060

## PARAMETRIC DATA

BETA = .000 RN/L = .500  
 BLTRIP = .000 MACH = 19.800

ALPHA ( 1 ) = -10.000 HAW/HT ( 1 ) = .850 RN/L = .38000 PO = 4008.3 TO = 2959.6 HO = .51000-01

## SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L  
 .025 .0333  
 .050 .0124  
 .075 .0077  
 .100 .0058  
 .125 .0045  
 .150 .0021  
 .175 .0028  
 .200 .0027  
 .250 .0019  
 .300 .0011  
 .350 .0013 .0018  
 .400 .0014 .0017  
 .450 .0011  
 .500 .0047 .0017  
 .550 .0016  
 .600 .0014 .0011  
 .650 \*\*\*\*\*  
 .700 .0013 .0010  
 .750 .0010  
 .800 .0012 .0007  
 .850 \*\*\*\*\*  
 .900 .0010 .0009  
 .950 .0012  
 1.000 .0005 .0003  
 1.040 .0008

ALPHA ( 1 ) = -10.000 HAW/HT ( 2 ) = .900 RN/L = .38000 PO = 4008.3 TO = 2959.6 HO = .51000-01

## SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L  
 .025 .0309  
 .050 .0115  
 .075 .0072  
 .100 .0054  
 .125 .0042

REPRODUCIBILITY OF THE  
 ORIGINAL PAGE IS POOR

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TABULATED SOURCE DATA - LACR N2-28 (IH19)

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ORBITER LOWER FUSELAGE

(RQEB05)

ALPHA ( 1 ) = -10.000 HAW/HT( 2 ) = .900

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.150	.0020	
.175	.0026	
.200	.0025	
.250	.0018	
.300	.0011	
.350	.0012	.0017
.400	.0013	.0015
.450	.0010	
.500	.0042	.0016
.550	.0015	
.600	.0013	.0010
.650	*****	
.700	.0012	.0009
.750	.0010	
.800	.0011	.0006
.850	*****	
.900	.0009	.0009
.950	.0011	
1.000	.0004	.0003
1.040	.0007	

ALPHA ( 1 ) = -10.000 HAW/HT( 3 ) = 1.000 RN/L = .38000 FO = 4008.3 TO = 2959.6 HQ = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.025	.0271	
.050	.0101	
.075	.0063	
.100	.0048	
.125	.0036	
.150	.0017	
.175	.0022	
.200	.0022	
.250	.0015	
.300	.0009	
.350	.0010	.0015
.400	.0011	.0014
.450	.0009	
.500	.0034	.0014
.550	.0013	
.600	.0011	.0009
.650	*****	

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TABULATED SOURCE DATA - LACR N2-28 (IH19)

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ORBITER LOWER FUSELAGE

(RQEB05)

ALPHA ( 1 ) = -10.000 HAW/HT ( 3 ) = 1.000

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.700	.0011	.0008
.750	.0008	
.800	.0010	.0006
.850	*****	
.900	.0008	.0008
.950	.0009	
1.000	.0004	.0002
1.040	.0006	

ALPHA ( 2 ) = -5.000 HAW/HT ( 1 ) = .850 RN/L = .38000 PO = 46.8 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.025	.0364	
.050	.0142	
.075	.0098	
.100	.0075	
.125	.0056	
.150	.0035	
.175	.0036	
.200	.0032	
.250	.0028	
.300	.0021	
.350	.0022	.0031
.400	.0016	.0028
.450	.0013	
.500	*****	.0029
.550	.0017	
.600	.0015	.0017
.650	*****	
.700	.0009	.0016
.750	.0014	
.800	.0014	.0013
.850	*****	
.900	.0006	.0013
.950	.0011	
1.000	.0006	.0003
1.040	.0004	



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TABULATED SOURCE DATA - LACR N2-28 (IH19)

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ORBITER LOW'R FUSELAGE

(RQEB05)

ALPHA ( 2) = -5.000 HAW/HT( 2) = .500 RN/L = .38000 PD = 4004.8 TO = 2959.6 HO = .51000-01

SECTION ( 1) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.025	.6339	
.050	.0132	
.075	.0091	
.100	.0070	
.125	.0052	
.150	.0033	
.175	.0034	
.200	.0029	
.250	.0026	
.300	.0019	
.350	.0021	.0029
.400	.0015	.0026
.450	.0012	
.500	*****	.0027
.550	.0016	
.600	.0014	.0016
.650	*****	
.700	.0008	.0014
.750	.0013	
.800	.0013	.0012
.850	*****	
.900	.0005	.0012
.950	.0011	
1.000	.0005	.0003
1.040	.0004	

ALPHA ( 2) = -5.000 HAW/HT( 3) = 1.000 RN/L = .38000 PD = 4004.8 TO = 2959.6 HO = .51000-01

SECTION ( 1) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.025	.0297	
.050	.0116	
.075	.0080	
.100	.0061	
.125	.0046	
.150	.0029	
.175	.0030	
.200	.0026	
.250	.0023	
.300	.0017	
.350	.0018	.0025
.400	.0013	.0023

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TABULATED SOURCE DATA - LACR N2-28 (IH19)

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ORBITER LOWER FUSELAGE

(RQEB05)

ALPHA ( 2 ) = -5.000 HAW/HT( 3 ) = 1.000

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.450	.0010	
.500	*****	.0024
.550	.0014	
.600	.0012	.0014
.650	*****	
.700	.0007	.0013
.750	.0011	
.800	.0011	.0011
.850	*****	
.900	.0005	.0010
.950	.0009	
1.000	.0005	.0002
1.040	.0003	

ALPHA ( 3 ) = .000 HAW/HT( 1 ) = .850 RN/L = .35800 PO = 3982.0 TO = 3039.6 HO = .50000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.025	.0429	
.050	.0188	
.075	.0135	
.100	.0101	
.125	.0077	
.150	.0053	
.175	.0053	
.200	.0042	
.250	.0041	
.300	.0028	
.350	.0030	.0047
.400	.0028	.0043
.450	.0025	
.500	*****	.0044
.550	.0005	
.600	*****	.0030
.650	*****	
.700	.0010	.0027
.750	.0011	
.800	.0020	.0020
.850	*****	
.900	.0016	.0021
.950	.0014	
1.000	.0010	.0003

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TABULATED SOURCE DATA - LACR N2-28 (IH19)

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ORBITER LOWER FUSELAGE

(RQEB05)

ALPHA ( 3) = .000 HAW/HT( 1) = .950

SECTION ( 1) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L  
1.040 .0012

ALPHA ( 3) = .000 HAW/HT( 2) = .900

RN/L = .35800 PO = 3982.0 TO = 3039.6 HO = .50000-01

SECTION ( 1) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L		
.025	.0399	
.050	.0175	
.075	.0126	
.100	.0094	
.125	.0072	
.150	.0050	
.175	.0050	
.200	.0039	
.250	.0039	
.300	.0026	
.350	.0028	.0044
.400	.0026	.0040
.450	.0023	
.500	*****	.0041
.550	.0004	
.600	*****	.0028
.650	*****	
.700	.0009	.0025
.750	.0011	
.800	.0019	.0019
.850	*****	
.900	.0015	.0020
.950	.0013	
1.000	.0010	.0003
1.040	.0011	

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TABULATED SOURCE DATA - LACR N2-28 (IH19)

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ORBITER LOWER FUSELAGE

(RQEB05)

ALPHA ( 3 ) = .000 HAW/HT( 3 ) = 1.000 RN/L = .35800 PO = 3982.0 TO = 3039.6 HO = .50000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.025	.0351	
.050	.0154	
.075	.0110	
.100	.0083	
.125	.0063	
.150	.0044	
.175	.0044	
.200	.0034	
.250	.0034	
.300	.0023	
.350	.0025	.0039
.400	.0023	.0035
.450	.0020	
.500	*****	.0036
.550	.0004	
.600	*****	.0024
.650	*****	
.700	.0003	.0022
.750	.0009	
.800	.0016	.0017
.850	*****	
.900	.0013	.0017
.950	.0011	
1.000	.0008	.0003
1.040	.0010	

ALPHA ( 4 ) = 5.000 HAW/HT( 1 ) = .850 RN/L = .36400 PO = 3975.0 TO = 3009.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.025	.0497	
.050	.0227	
.075	.0166	
.100	.0131	
.125	.0104	
.150	.0069	
.175	.0067	
.200	.0074	
.250	.0052	
.300	.0046	
.350	.0037	.0067
.400	.0036	.0073

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## TABULATED SOURCE DATA - LACR N2-28 (IH19)

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ORBITER LOWER FUSELAGE

(RQEB05)

ALPHA ( 4) = 5.000 HAW/HT ( 1) = .850

SECTION ( 1) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.450	.0034	
.500	*****	.0064
.550	.0026	
.600	.0026	.0057
.650	*****	
.700	.0025	.0045
.750	.0023	
.800	.0017	.0039
.850	*****	
.900	.0022	.0031
.950	.0019	
1.000	.0011	.0011
1.040	.0010	

ALPHA ( 4) = 5.000 HAW/HT ( 2) = .900 RN/L = .36400 PO = 3975.0 TO = 3009.6 HQ = .51000-01

SECTION ( 1) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.025	.0462	
.050	.0211	
.075	.0154	
.100	.0122	
.125	.0097	
.150	.0063	
.175	.0062	
.200	.0069	
.250	.0048	
.300	.0042	
.350	.0034	.0062
.400	.0033	.0068
.450	.0031	
.500	*****	.0060
.550	.0024	
.600	.0024	.0053
.650	*****	
.700	.0023	.0042
.750	.0022	
.800	.0016	.0037
.850	*****	
.900	.0020	.0029
.950	.0018	
1.000	.0010	.0010

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TABULATED SOURCE DATA - LACR N2-28 (IH19)

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ORBITER LOWER FUSELAGE

(RQEB05)

ALPHA ( 4) = 5.000 HAW/HT( 2) = .900

SECTION ( 1) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

1.040 .0009

ALPHA ( 4) = 5.000 HAW/HT( 3) = 1.000 RN/L = .36400 PO = 3975.0 TO = 3009.6 HO = .51000-01

SECTION ( 1) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.025	.0404	
.050	.0185	
.075	.0135	
.100	.0107	
.125	.0085	
.150	.0055	
.175	.0054	
.200	.0060	
.250	.0042	
.300	.0037	
.350	.0030	.0055
.400	.0029	.0059
.450	.0028	
.500	*****	.0052
.550	.0021	
.600	.0021	.0046
.650	*****	
.700	.0020	.0037
.750	.0019	
.800	.0014	.0032
.850	*****	
.900	.0018	.0025
.950	.0016	
1.000	.0009	.0009
1.040	.0008	

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TABULATED SOURCE DATA - LACR N2-28 (IH19)

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ORBITER LOWER FUSELAGE

(RCE905)

ALPHA ( 5) = 10.000 HAW/HT( 1) = .850 RN/L = .38100 PO = 4011.8 TO = 2959.6 HO = .51000-01

SECTION ( 1) BODY

DEPENDENT VARIABLE H/HREF

Y(5P) .0000117.0000

X/L

.025	.0634	
.050	.0304	
.075	.0232	
.100	.0189	
.125	.0152	
.150	.0091	
.175	.0111	
.200	.0111	
.250	.0089	
.300	.0080	
.350	.0072	.0111
.400	.0070	.0127
.450	.0061	
.500	*****	.0128
.550	.0060	
.600	.0055	.0108
.650	*****	
.700	.0049	.0094
.750	.0049	
.800	.0049	.0081
.850	*****	
.900	.0038	.0066
.950	.0033	
1.000	.0030	.0036
1.040	.0025	

ALPHA ( 5) = 10.000 HAW/HT( 2) = .900 RN/L = .38100 PO = 4011.8 TO = 2959.6 HO = .51000-01

SECTION ( 1) BODY

DEPENDENT VARIABLE H/HREF

Y(5P) .0000117.0000

X/L

.025	.0590	
.050	.0282	
.075	.0215	
.100	.0175	
.125	.0141	
.150	.0085	
.175	.0104	
.200	.0103	
.250	.0083	
.300	.0074	
.350	.0067	.0103
.400	.0065	.0118

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TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 B22C7F5M4V7W111

ORBITER LOWER FUSELAGE

(RQEB05)

ALPHA ( 5) = 10.000 HAW/HT( 2) = .900

SECTION ( 1) BODY DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.450	.0056	
.500	*****	.0119
.550	.0056	
.600	.0051	.0100
.650	*****	
.700	.0046	.0088
.750	.0046	
.800	.0046	.0075
.850	*****	
.900	.0035	.0061
.950	.0030	
1.000	.0028	.0033
1.040	.0024	

ALPHA ( 5) = 10.000 HAW/HT( 3) = 1.000 RN/L = .38100 PO = 4011.8 TO = 2959.6 HO = .51000-01

SECTION ( 1) BODY DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.025	.0517	
.050	.0248	
.075	.0189	
.100	.0154	
.125	.0124	
.150	.0075	
.175	.0091	
.200	.0091	
.250	.0073	
.300	.0065	
.350	.0059	.0091
.400	.0057	.0104
.450	.0049	
.500	*****	.0105
.550	.0049	
.600	.0045	.0088
.650	*****	
.700	.0040	.0077
.750	.0040	
.800	.0040	.0066
.850	*****	
.900	.0031	.0054
.950	.0027	
1.000	.0025	.0029



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TABULATED SOURCE DATA - LAGR N2-2B (IH19)

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ORBITER LOWER FUSELAGE

(RQEB05)

ALPHA ( 5) = 10.000 HAH/HT ( 3) = 1.000

SECTION ( 1) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L  
1.040 .0021

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TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 022C7F5MW7W111

ORBITER LOWER FUSELAGE

(RQEB06) ( 03 NOV 75 )

## REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000  
 LREF = 1290.3000 IN. YMRP = .0000  
 BREF = 1290.3000 IN. ZMRP = .0000  
 SCALE = .0060

## PARAMETRIC DATA

BETA = .000 RN/L = .500  
 BLTRIP = .000 HACH = 19.800

ALPHA ( 1 ) = -10.000 HAW/HT ( 1 ) = .850 RN/L = .36500 PO = 4010.1 TO = 3019.6 HQ = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.025	.0331
.050	.0113
.075	.0076
.100	.0052
.125	.0044
.150	.0038
.175	.0034
.200	.0033
.250	.0017
.300	.0016
.350	.0019
.400	.0013
.450	.0013
.500	.0027
.550	.0014
.600	.0009
.650	.0061
.700	.0010
.750	.0009
.800	.0011
.850	*****
.900	.0007
.950	.0006
1.000	.0006
1.040	.0005

ALPHA ( 1 ) = -10.000 HAW/HT ( 2 ) = .900 RN/L = .36500 PO = 4010.1 TO = 3019.6 HQ = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.025	.0307
.050	.0105
.075	.0070
.100	.0049
.125	.0041

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TABULATED SOURCE DATA - LAGR N2-28 (IH19)

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ORBITER LOWER FUSELAGE

(RQEB06)

ALPHA ( 1 ) = -10.000 HAW/HT( 2 ) = .900

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.150	.0035	
.175	.0032	
.200	.0031	
.250	.0016	
.300	.0015	
.350	.0018	.0021
.400	.0012	.0020
.450	.0012	
.500	.0024	.0012
.550	.0013	
.600	.0009	.0010
.650	.0054	
.700	.0010	.0012
.750	.0008	
.800	.0011	.0010
.850	*****	
.900	.0007	.0007
.950	.0006	
1.000	.0005	.0000
1.040	.0005	

ALPHA ( 1 ) = -10.000 HAW/HT( 3 ) = 1.000 RN/L = .36500 PO = 4010.1 TO = 3019.6 HO = .5.000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.025	.0269	
.050	.0092	
.075	.0062	
.100	.0043	
.125	.0036	
.150	.0031	
.175	.0028	
.200	.0027	
.250	.0014	
.300	.0013	
.350	.0016	.0019
.400	.0010	.0017
.450	.0010	
.500	.0020	.0011
.550	.0011	
.600	.0007	.0009
.650	.0045	

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TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IM19 B22C7F5M-V7W111

ORBITER LOWER FUSELAGE

(RQEB08)

ALPHA ( 1 ) = -10.000 HAW/HT( 3 ) = 1.000

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.700	.0008	.0011
.750	.0007	
.800	.0009	.0009
.850	*****	
.900	.0006	.0006
.950	.0005	
1.000	.0005	.0000
1.040	.0004	

ALPHA ( 2 ) = -5.000 HAW/HT( 1 ) = .850 RN/L = .36400 PO = 3999.3 TO = 3019.6 HQ = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.025	.0377	
.050	.0146	
.075	.0102	
.100	.0071	
.125	.0059	
.150	.0044	
.175	.0040	
.200	.0037	
.250	.0030	
.300	.0020	
.350	.0019	.0026
.400	.0016	.0026
.450	.0016	
.500	*****	.0024
.550	.0011	
.600	.0014	.0022
.650	*****	
.700	.0012	.0015
.750	.0007	
.800	.0011	.0013
.850	.0001	
.900	.0009	.0011
.950	.0001	
1.000	.0006	.0003
1.040	.0004	

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

PAGE 40

IH19 B22C7F5M4V7H111

ORBITER LOWER FUSELAGE

(RQEB08)

ALPHA ( 2) = -5.000 HAW/HT ( 2) = .900 RN/L = .36400 PO = 3999.5 TO = 3019.6 HO = .51000-01

SECTION ( 1) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.025	.0351	
.050	.0135	
.075	.0095	
.100	.0066	
.125	.0055	
.150	.0041	
.175	.0037	
.200	.0034	
.250	.0028	
.300	.0019	
.350	.0018	.0024
.400	.0015	.0024
.450	.0014	
.500	*****	.0022
.550	.0011	
.600	.0013	.0020
.650	*****	
.700	.0012	.0014
.750	.0007	
.800	.0010	.0012
.850	.0001	
.900	.0008	.0011
.950	.0001	
1.000	.0006	.0003
1.040	.0003	

ALPHA ( 2) = -5.000 HAW/HT ( 3) = 1.000 RN/L = .36400 PO = 3999.5 TO = 3019.6 HO = .51000-01

SECTION ( 1) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.025	.0307	
.050	.0119	
.075	.0083	
.100	.0059	
.125	.0048	
.150	.0036	
.175	.0032	
.200	.0030	
.250	.0024	
.300	.0016	
.350	.0016	.0021
.400	.0013	.0021

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TABULATED SOURCE DATA - LACR N2-28 (IH19)

PAGE 41

IH19 B22C7F5M4V7H111

ORBITER LOWER FUSELAGE

(RQEB06)

ALPHA ( 2) = -5.000 HAW/HT( 3) = 1.000

SECTION ( 1) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.450	.0013	
.500	*****	.0020
.550	.0009	
.600	.0012	.0018
.650	*****	
.700	.0010	.0012
.750	.0006	
.800	.0009	.0011
.850	.0001	
.900	.0007	.0009
.950	.0001	
1.000	.0005	.0002
1.040	.0003	

ALPHA ( 3) = .000 HAW/HT( 1) = .850 RN/L = .35600 PO = 3966.2 TO = 3039.6 HO = .50000-01

SECTION ( 1) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.025	.0408	
.050	.0181	
.075	.0124	
.100	.0092	
.125	.0075	
.150	.0064	
.175	.0054	
.200	.0047	
.250	.0034	
.300	.0030	
.350	.0027	.0044
.400	.0025	.0041
.450	.0023	
.500	.0031	.0040
.550	.0019	
.600	.0021	.0031
.650	.0071	
.700	.0014	.0023
.750	.0011	
.800	.0002	.0020
.850	.0001	
.900	*****	.0020
.950	*****	
1.000	.0010	.0002

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TABULATED SOURCE DATA - LACR N2-28 (IH19)

PAGE 42

IH19 B22C7F5M4V7W111

ORBITER LOWER FUSELAGE

(RQEB06)

ALPHA ( 3) = .000 HAM/HT( 1) = .850

SECTION ( 1) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

1.040 .0004

ALPHA ( 3) = .000 HAM/HT( 2) =

.900

RN/L = .35600

PO

\*

3966.2

TO

\*

3039.6

HO

\*

.50000-01

SECTION ( 1) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.025	.0380
.050	.0169
.075	.0115
.100	.0085
.125	.0070
.150	.0059
.175	.0051
.200	.0044
.250	.0032
.300	.0028
.350	.0025
.400	.0023
.450	.0021
.500	.0028
.550	.0018
.600	.0020
.650	.0063
.700	.0013
.750	.0011
.800	.0002
.850	.0001
.900	*****
.950	*****
1.000	.0010
1.040	.0003

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 B22C7F5M4V7W111 ORBITER LOWER FUSELAGE

(RQEB06)

ALPHA ( 3 ) = .000 HAW/HT ( 3 ) = 1.000 RN/L = .35600 PO = 3986.2 TO = 3039.6 HO = .50000-01

SECTION ( 1 ) BODY DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L		
.025	.0333	
.050	.0149	
.075	.0101	
.100	.0075	
.125	.0061	
.150	.0052	
.175	.0045	
.200	.0038	
.250	.0028	
.300	.0025	
.350	.0022	.0036
.400	.0020	.0033
.450	.0019	
.500	.0023	.0033
.550	.0016	
.600	.0017	.0025
.650	.0052	
.700	.0011	.0019
.750	.0009	
.800	.0002	.0017
.850	.0001	
.900	*****	.0016
.950	*****	
1.000	.0008	.0002
1.040	.0003	

ALPHA ( 4 ) = 5.000 HAW/HT ( 1 ) = .850 RN/L = .39500 PO = 4018.8 TO = 2909.6 HO = .52000-01

SECTION ( 1 ) BODY DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L		
.025	.0505	
.050	.0224	
.075	.0164	
.100	.0132	
.125	.0107	
.150	.0086	
.175	.0078	
.200	.0064	
.250	.0056	
.300	.0050	
.350	.0045	.0071
.400	.0037	.0075



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TABULATED SOURCE DATA - LAGR N2-28 (1H19)

PAGE 44

1H19 822C7F5M4V7H111

ORBITER LOWER FUSELAGE

(RQEB06)

ALPHA ( 4 ) = 5.000 HAW/HT( 1 ) = .850

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.450	.0038	
.500	*****	.0077
.550	.0029	
.600	.0032	.0056
.650	*****	
.700	.0022	.0044
.750	.0023	
.800	.0029	.0040
.850	.0000	
.900	.0018	.0033
.950	.0015	
1.000	.0016	.0022
1.040	.0017	

ALPHA ( 4 ) = 5.000 HAW/HT( 2 ) = .900 RN/L = .39500 PO = 4018.8 TO = 2909.6 HQ = .52000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.025	.0469	
.050	.0208	
.075	.0152	
.100	.0122	
.125	.0099	
.150	.0080	
.175	.0072	
.200	.0060	
.250	.0052	
.300	.0046	
.350	.0042	.0066
.400	.0034	.0070
.450	.0035	
.500	*****	.0072
.550	.0027	
.600	.0030	.0052
.650	*****	
.700	.0021	.0041
.750	.0022	
.800	.0027	.0037
.850	.0000	
.900	.0017	.0031
.950	.0014	
1.000	.0014	.0020

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TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 822C7F5M4V7W111

ORBITER LOWER FUSELAGE

(RQEB06)

ALPHA ( 4 ) = 5.000 HAW/HT ( 2 ) = .900

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L  
1.040 .0016

ALPHA ( 4 ) = 5.000 HAW/HT ( 3 ) = 1.000 RN/L = .39500 PO = 4018.8 TO = 2909.6 HO = .52000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L  
.025 .0410  
.050 .0192  
.075 .0134  
.100 .0107  
.125 .0087  
.150 .0070  
.175 .0063  
.200 .0052  
.250 .0045  
.300 .0041  
.350 .0036 .0058  
.400 .0030 .0061  
.450 .0031  
.500 \*\*\*\*\* .0063  
.550 .0024  
.600 .0026 .0045  
.650 \*\*\*\*\*  
.700 .0018 .0036  
.750 .0019  
.800 .0024 .0032  
.850 .0010  
.900 .0015 .0027  
.950 .0012  
1.000 .0013 .0018  
1.040 .0014

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TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 822C7F5M4V7H111

ORBITER LOWER FUSELAGE

(RQEB06)

ALPHA ( 5) = 10.000 HAW/HT( 1) = .850 RN/L = .38000 PO = 4006.5 TO = 2959.6 HO = .51000-01

SECTION ( 1) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.025	.0617	
.050	.0296	
.075	.0226	
.100	.0184	
.125	.0153	
.150	.0128	
.175	.0112	
.200	.0105	
.250	.0094	
.300	.0076	
.350	.0075	.0111
.400	.0071	.0124
.450	.0068	
.500	.0035	.0129
.550	.0066	
.600	.0057	.0104
.650	.0077	
.700	.0055	.0089
.750	.0054	
.800	.0048	.0078
.850	.0002	
.900	.0038	.0069
.950	.0034	
1.000	.0026	.0043
1.040	.0025	

ALPHA ( 5) = 10.000 HAW/HT( 2) = .900 RN/L = .38000 PO = 4006.5 TO = 2959.6 HO = .51000-01

SECTION ( 1) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.025	.0574	
.050	.0275	
.075	.0210	
.100	.0171	
.125	.0142	
.150	.0119	
.175	.0104	
.200	.0097	
.250	.0087	
.300	.0071	
.350	.0070	.0103
.400	.0066	.0116

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 B22C7F5M4V7W111 ORBITER LOWER FUSELAGE

(RQEB06)

ALPHA ( 5) = 10.000 HAH/HT( 2) = .900

SECTION ( 1) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.450	.0063	
.500	.0031	.0120
.550	.0062	
.600	.0053	.0097
.650	.0069	
.700	.0051	.0083
.750	.0050	
.800	.0044	.0072
.850	.0002	
.900	.0036	.0064
.950	.0032	
1.000	.0024	.0040
1.040	.0023	

ALPHA ( 5) = 10.000 HAH/HT( 3) = 1.000 RN/L = .38000 PO = 4006.5 TO = 2959.6 HO = .51000-01

SECTION ( 1) BODY

DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L

.025	.0503	
.050	.0242	
.075	.0185	
.100	.0150	
.125	.0125	
.150	.0104	
.175	.0092	
.200	.0085	
.250	.0077	
.300	.0062	
.350	.0061	.0091
.400	.0058	.0101
.450	.0055	
.500	.0026	.0106
.550	.0054	
.600	.0047	.0085
.650	.0056	
.700	.0045	.0072
.750	.0044	
.800	.0039	.0063
.850	.0002	
.900	.0031	.0056
.950	.0028	
1.000	.0021	.0035

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

PAGE 46

IH19 B22C7F57W7H111 ORBITER LOWER FUSELAGE

(RQEB06)

ALPHA ( 5) = 10.000 HAW/HT( 3) = 1.000

SECTION ( 1) BODY DEPENDENT VARIABLE H/HREF

Y(BP) .0000117.0000

X/L  
1.040 .0020

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 B22C7F5M4V7H111 T8 ORBITER FUSELAGE CHINE

(RQEC03) ( 03 NOV 75 )

## REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000  
 LREF = 1290.3000 IN. YMRP = .0000  
 BREF = 1290.3000 IN. ZMRP = .0000  
 SCALE = .0060

## PARAMETRIC DATA

BETA = .000 RN/L = .500  
 BLTRIP = .000 DELTAH = .175  
 MACH = 19.800

ALPHA ( 1 ) = -10.000 HAW/HT( 1 ) = .850 RN/L = .36800 PO = 4011.8 TO = 3009.6 HO = .51000-01

SECTION ( 1 )CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
 .150 .0152  
 .200 .0088

ALPHA ( 1 ) = -10.000 HAW/HT( 2 ) = .900 RN/L = .36800 PO = 4011.8 TO = 3009.6 HO = .51000-01

SECTION ( 1 )CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
 .150 .0142  
 .200 .0082

ALPHA ( 1 ) = -10.000 HAW/HT( 3 ) = 1.000 RN/L = .36800 PO = 4011.8 TO = 3009.6 HO = .51000-01

SECTION ( 1 )CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
 .150 .0124  
 .200 .0072

ALPHA ( 2 ) = -5.000 HAW/HT( 1 ) = .850 RN/L = .38200 PO = 4022.3 TO = 2959.6 HO = .51000-01

SECTION ( 1 )CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
 .150 .0129  
 .200 .0071

REPRODUCIBILITY OF THE  
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DATE 03 NOV 75

## TABULATED SOURCE DATA - LACR N2-28 (IH19)

PAGE 50

IH19 B22C7F5M4V7W111 TB ORBITER FUSELAGE CHINE

(RQEC03)

ALPHA ( 2 ) = -5.000 HAW/HT( 2 ) = .900 RN/L = .38200 PO = 4022.3 TO = 2959.6 HO = .51000-01

SECTION ( 1 )CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100	*****
.150	.0120
.200	.0066

ALPHA ( 2 ) = -5.000 HAW/HT( 3 ) = 1.000 RN/L = .38200 PO = 4022.3 TO = 2959.6 HO = .51000-01

SECTION ( 1 )CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100	*****
.150	.0106
.200	.0058

ALPHA ( 3 ) = .000 HAW/HT( 1 ) = .850 RN/L = .36500 PO = 4066.2 TO = 3039.6 HO = .51000-01

SECTION ( 1 )CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100	*****
.150	.0119
.200	.0058

ALPHA ( 3 ) = .000 HAW/HT( 2 ) = .900 RN/L = .36500 PO = 4066.2 TO = 3039.6 HO = .51000-01

SECTION ( 1 )CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100	*****
.150	.0110
.200	.0054

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 B22C7F5M4V7W111 T8 ORBITER FUSELAGE CHINE

(RQEC03)

ALPHA ( 3) = .000

HAW/HT( 3) =

1.000 RN/L = .36500

PO

= 4066.2

TO

= 3039.6

HO

= .51000-01

SECTION ( 1)CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100 \*\*\*\*\*

.150 .0097

.200 .0048

ALPHA ( 4) = 5.000

HAW/HT( 1) =

.850 RN/L = .36200

PO

= 4029.4

TO

= 3039.6

HO

= .51000-01

SECTION ( 1)CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100 \*\*\*\*\*

.150 .0086

.200 .0041

ALPHA ( 4) = 5.000

HAW/HT( 2) =

.900 RN/L = .36200

PO

= 4029.4

TO

= 3039.6

HO

= .51000-01

SECTION ( 1)CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100 \*\*\*\*\*

.150 .0080

.200 .0038

ALPHA ( 4) = 5.000

HAW/HT( 3) =

1.000 RN/L = .36200

PO

= 4029.4

TO

= 3039.6

HO

= .51000-01

SECTION ( 1)CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100 \*\*\*\*\*

.150 .0070

.200 .0033



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TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 B22C7F5M4V7W111 T8 ORBITER FUSELAGE CHINE

(RQEC03)

ALPHA ( 5) = 10.000 HAW/HT( 1) = .850 RN/L = .36900 PO = 4027.6 TO = 3009.6 HO = .51000-01

SECTION ( 1)CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100 \*\*\*\*\*

.150 .0054

.200 .0026

ALPHA ( 5) = 10.000 HAW/HT( 2) = .900 RN/L = .36900 PO = 4027.6 TO = 3009.6 HO = .51000-01

SECTION ( 1)CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100 \*\*\*\*\*

.150 .0050

.200 .0024

ALPHA ( 5) = 10.000 HAW/HT( 3) = 1.000 RN/L = .36900 PO = 4027.6 TO = 3009.6 HO = .51000-01

SECTION ( 1)CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100 \*\*\*\*\*

.150 .0044

.200 .0021

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

PAGE 53

IH19 B22C7F5M4V7W111 T8 ORBITER FUSELAGE CHINE

(RQEC04) ( 03 NOV 75 )

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000  
LREF = 1290.3000 IN. YMRP = .0000  
BREF = 1290.3000 IN. ZMRP = .0000  
SCALE = .0060

PARAMETRIC DATA

BETA = .000 RN/L = .500  
BLTRIP = .030 DELTAH = .175  
MACH = 19.800

ALPHA ( 1 ) = -10.000 HAW/HT( 1 ) =

.850 RN/L = .37900 PO = 3992.5 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) CHINE

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
.150 .0136  
.200 .0079

ALPHA ( 1 ) = -10.000 HAW/HT( 2 ) =

.900 RN/L = .37900 PO = 3992.5 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) CHINE

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
.150 .0127  
.200 .0073

ALPHA ( 1 ) = -10.000 HAW/HT( 3 ) =

1.000 RN/L = .37900 PO = 3992.5 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) CHINE

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
.150 .0111  
.200 .0064

ALPHA ( 2 ) = -5.000 HAW/HT( 1 ) =

.850 RN/L = .38000 PO = 4032.9 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) CHINE

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
.150 .0128  
.200 .0065

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TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 B22C7F5M4V7N111 T8 ORBITER FUSELAGE CHINE

(RQEC04)

ALPHA ( 2) = -5.000 HAW/HT( 2) = .900 RN/L = .38000 PO = 4032.9 TO = 2969.6 HO = .51000-01

SECTION ( 1)CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
.150 .0119  
.200 .0061

ALPHA ( 2) = -5.000 HAW/HT( 3) = 1.000 RN/L = .38000 PO = 4032.9 TO = 2969.6 HO = .51000-01

SECTION ( 1)CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
.150 .0105  
.200 .0054

ALPHA ( 3) = .000 HAW/HT( 1) = .850 RN/L = .36000 PO = 4013.6 TO = 3039.6 HO = .51000-01

SECTION ( 1)CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
.150 .0107  
.200 .0053

ALPHA ( 3) = .000 HAW/HT( 2) = .900 RN/L = .36000 PO = 4013.6 TO = 3039.6 HO = .51000-01

SECTION ( 1)CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
.150 .0099  
.200 .0049

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TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 B22C7F5M4V7H111 T8 ORBITER FUSELAGE CHINE

(RQEC04)

ALPHA ( 3 ) = .000 HAW/HT( 3 ) = 1.000 RN/L = .36000 PO = 4013.6 TO = 3039.6 HO = .51000-01

SECTION ( 1 ) CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
.150 .0087  
.200 .0043

ALPHA ( 4 ) = 5.000 HAW/HT( 1 ) = .850 RN/L = .37900 PO = 4020.6 TO = 2969.6 HO = .51000-01

SECTION ( 1 ) CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
.150 .0088  
.200 .0040

ALPHA ( 4 ) = 5.000 HAW/HT( 2 ) = .900 RN/L = .37900 PO = 4020.6 TO = 2969.6 HO = .51000-01

SECTION ( 1 ) CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
.150 .0082  
.200 .0038

ALPHA ( 4 ) = 5.000 HAW/HT( 3 ) = 1.000 RN/L = .37900 PO = 4020.6 TO = 2969.6 HO = .51000-01

SECTION ( 1 ) CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
.150 .0072  
.200 .0033

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 B22C7F5M4V7W111 T8 ORBITER FUSELAGE CHINE

(RQEC04)

ALPHA ( 5) = 10.000 HAW/HT( 1) = .850 RN/L = .36900 PO = 3967.9 TO = 2989.6 HO = .51000-01

SECTION ( 1)CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
.150 .0047  
.200 .0019

ALPHA ( 5) = 10.000 HAW/HT( 2) = .900 RN/L = .36900 PO = 3967.9 TO = 2989.6 HO = .51000-01

SECTION ( 1)CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
.150 .0044  
.200 .0018

ALPHA ( 5) = 10.000 HAW/HT( 3) = 1.000 RN/L = .36900 PO = 3967.9 TO = 2989.6 HO = .51000-01

SECTION ( 1)CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
.150 .0039  
.200 .0016

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 B22C7F5M4V7H111

ORBITER FUSELAGE CHINE

(RQEC05) ( 03 NOV 75 )

## REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000  
 LREF = 1290.3000 IN. YMRP = .0000  
 BREF = 1290.3000 IN. ZMRP = .0000  
 SCALE = .0060

## PARAMETRIC DATA

BETA = .000 RN/L = .500  
 BLTRIP = .000 MACH = 19.800

ALPHA ( 1 ) = -10.000 HAW/HT( 1 ) = .850 RN/L = .38000 PO = 4008.3 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
 .150 .0094  
 .200 .0035

ALPHA ( 1 ) = -10.000 HAW/HT( 2 ) = .900 RN/L = .38000 PO = 4008.3 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
 .150 .0087  
 .200 .0032

ALPHA ( 1 ) = -10.000 HAW/HT( 3 ) = 1.000 RN/L = .38000 PO = 4008.3 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
 .150 .0076  
 .200 .0028

ALPHA ( 2 ) = -5.000 HAW/HT( 1 ) = .850 RN/L = .38000 PO = 4004.8 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
 .150 .0098  
 .200 .0047

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 B22C7F5M4V7H111

ORBITER FUSELAGE CHINE

(RQEC05)

ALPHA ( 2) = -5.000 HAW/HT( 2) = .900 RN/L = .38000 PO = 4004.8 TO = 2959.6 HO = .51000-01

SECTION ( 1)CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
.150 .0091  
.200 .0044

ALPHA ( 2) = -5.000 HAW/HT( 3) = 1.000 RN/L = .38000 PO = 4004.8 TO = 2959.6 HO = .51000-01

SECTION ( 1)CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
.150 .0080  
.200 .0039

ALPHA ( 3) = .000 HAW/HT( 1) = .850 RN/L = .35800 PO = 3982.0 TO = 3039.6 HO = .50000-01

SECTION ( 1)CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
.150 .0142  
.200 .0063

ALPHA ( 3) = .000 HAW/HT( 2) = .900 RN/L = .35800 PO = 3982.0 TO = 3039.6 HO = .50000-01

SECTION ( 1)CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
.150 .0133  
.200 .0058

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 B22C7F5M4V7W111

ORBITER FUSELAGE CHINE

(RQEC05)

ALPHA ( 3) = .000 HAW/HT( 3) = 1.000 RN/L = .35800 PO = 3982.0 TO = 3039.6 HO = .50000-01

SECTION ( 1)CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
.150 .0117  
.200 .0051

ALPHA ( 4) = 5.000 HAW/HT( 1) = .850 RN/L = .36400 PO = 3975.0 TO = 3009.6 HO = .51000-01

SECTION ( 1)CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
.150 .0170  
.200 .0085

ALPHA ( 4) = 5.000 HAW/HT( 2) = .900 RN/L = .36400 PO = 3975.0 TO = 3009.6 HO = .51000-01

SECTION ( 1)CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
.150 .0158  
.200 .0079

ALPHA ( 4) = 5.000 HAW/HT( 3) = 1.000 RN/L = .36400 PO = 3975.0 TO = 3009.6 HO = .51000-01

SECTION ( 1)CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
.150 .0138  
.200 .0069



DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

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1H19 B22C7F5M4V7W111 ORBITER FUSELAGE CHINE

(RQEC05)

ALPHA ( 5) = 10.000 HAW/HT( 1) = .850 RN/L = .38100 PO = 4011.8 TO = 2959.6 HO = .51000-01

SECTION ( 1)CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
.150 .0219  
.200 .0141

ALPHA ( 5) = 10.000 HAW/HT( 2) = .900 RN/L = .38100 PO = 4011.8 TO = 2959.6 HO = .51000-01

SECTION ( 1)CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
.150 .0204  
.200 .0131

ALPHA ( 5) = 10.000 HAW/HT( 3) = 1.000 RN/L = .38100 PO = 4011.8 TO = 2959.6 HO = .51000-01

SECTION ( 1)CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
.150 .0179  
.200 .0115

DATE 03 NOV 75

## TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 B22C7F5M4V7W111

ORBITER FUSELAGE CHINE

(RQEC06) ( 03 NOV 75 )

## REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000  
 LREF = 1290.3000 IN. YMRP = .0000  
 BREF = 1290.3000 IN. ZMRP = .0000  
 SCALE = .0060

## PARAMETRIC DATA

BETA = .000 RN/L = .500  
 BLTRIP = .000 MACH = 19.800

ALPHA ( 1 ) = -10.000 HAW/HT( 1 ) = .850 RN/L = .36500 PO = 4010.1 TO = 3019.6 HO = .51000-01

SECTION ( 1 ) CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
 .150 .0098  
 .200 .0037

ALPHA ( 1 ) = -10.000 HAW/HT( 2 ) = .900 RN/L = .36500 PO = 4010.1 TO = 3019.6 HO = .51000-01

SECTION ( 1 ) CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
 .150 .0082  
 .200 .0034

ALPHA ( 1 ) = -10.000 HAW/HT( 3 ) = 1.000 RN/L = .36500 PO = 4010.1 TO = 3019.6 HO = .51000-01

SECTION ( 1 ) CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
 .150 .0072  
 .200 .0030

ALPHA ( 2 ) = -5.000 HAW/HT( 1 ) = .850 RN/L = .36400 PO = 3999.5 TO = 3019.6 HO = .51000-01

SECTION ( 1 ) CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
 .150 .0111  
 .200 .0044

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (1H19)

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1H19 022C7F5M4V7H111

ORBITER FUSELAGE CHINE

(RQEC06)

ALPHA ( 2 ) = -5.000 HAW/HT( 2 ) = .900 RN/L = .36400 PO = 3999.5 TO = 3019.6 HO = .51000-01

SECTION ( 1 ) CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100	*****
.150	.0103
.200	.0041

ALPHA ( 2 ) = -5.000 HAW/HT( 3 ) = 1.000 RN/L = .36400 PO = 3999.5 TO = 3019.6 HO = .51000-01

SECTION ( 1 ) CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100	*****
.150	.0090
.200	.0036

ALPHA ( 3 ) = .000 HAW/HT( 1 ) = .850 RN/L = .35600 PO = 3966.2 TO = 3039.6 HO = .50000-01

SECTION ( 1 ) CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100	*****
.150	.0126
.200	.0061

ALPHA ( 3 ) = .000 HAW/HT( 2 ) = .900 RN/L = .35600 PO = 3966.2 TO = 3039.6 HO = .50000-01

SECTION ( 1 ) CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100	*****
.150	.0117
.200	.0057

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 B22C7F5M4V7W111

ORBITER FUSELAGE CHINE

(RQEC06)

ALPHA ( 3) = .000 HAW/HT( 3) = 1.000 RN/L = .35600 PO = 3966.2 TO = 3039.6 HO = .50000-01

SECTION ( 1)CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100	*****
.150	.0103
.200	.0050

ALPHA ( 4) = 5.000 HAW/HT( 1) = .850 RN/L = .39500 PO = 4018.8 TO = 2909.6 HO = .52000-01

SECTION ( 1)CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100	*****
.150	.0175
.200	.0093

ALPHA ( 4) = 5.000 HAW/HT( 2) = .900 RN/L = .39500 PO = 4018.8 TO = 2909.6 HO = .52000-01

SECTION ( 1)CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100	*****
.150	.0163
.200	.0086

ALPHA ( 4) = 5.000 HAW/HT( 3) = 1.000 RN/L = .39500 PO = 4018.8 TO = 2909.6 HO = .52000-01

SECTION ( 1)CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100	*****
.150	.0143
.200	.0075

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

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1H19 B22C7F5M4V7W111 ORBITER FUSELAGE CHINE

(RQEC05)

ALPHA ( 5) = 10.000 HAW/HT( 1) = .850 RN/L = .38000 PO = 4006.5 TO = 2959.6 HO = .51000-01

SECTION ( 1)CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
.150 .0228  
.200 .0139

ALPHA ( 5) = 10.000 HAW/HT( 2) = .900 RN/L = .38000 PO = 4006.5 TO = 2959.6 HO = .51000-01

SECTION ( 1)CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
.150 .0212  
.200 .0129

ALPHA ( 5) = 10.000 HAW/HT( 3) = 1.000 RN/L = .38000 PO = 4006.5 TO = 2959.6 HO = .51000-01

SECTION ( 1)CHINE

DEPENDENT VARIABLE H/HREF

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
.150 .0186  
.200 .0114

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 B22C7F5M4V7W111 T8 ORBITER UPPER FUSELAGE

(R0EU03) ( 03 NOV 75 )

## REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000  
 LREF = 1290.3000 IN. YMRP = .0000  
 BREF = 1290.3000 IN. ZMRP = .0000  
 SCALE = .0060

## PARAMETRIC DATA

BETA = .000 RN/L = .500  
 BLTRIP = .000 DELTAH = .175  
 MACH = 19.800

ALPHA ( 1 ) = -10.000 HAW/HT( 1 ) = .850 RN/L = .36800 PO = 4011.8 TO = 3009.6 HO = .51000-01

## SECTION ( 1 ) BODY

## DEPENDENT VARIABLE H/HREF

X/L	.1700	.3000	.4000	.4250	.5000	.6000	.7000	.8250
Z(WL)								
375.000	*****	.0093		.0024	.0001	.0905		
400.000			.0039					
425.000		.0051	.0055	*****	.0032	.0023		
465.000							*****	
501.000	.0411	.0005	.0058		.0066	.0003	.0048	

ALPHA ( 1 ) = -10.000 HAW/HT( 2 ) = .900 RN/L = .36800 PO = 4011.8 TO = 3009.6 HO = .51000-01

## SECTION ( 1 ) BODY

## DEPENDENT VARIABLE H/HREF

X/L	.1700	.3000	.4000	.4250	.5000	.6000	.7000	.8250
Z(WL)								
375.000	*****	.0003		.0023	.0001	.0004		
400.000			.0036					
425.000		.0047	.0051	*****	.0029	.0022		
465.000							*****	
501.000	.0381	.0005	.0054		.0061	.0003	.0045	

ALPHA ( 1 ) = -10.000 HAW/HT( 3 ) = 1.000 RN/L = .36800 PO = 4011.8 TO = 3009.6 HO = .51000-01

## SECTION ( 1 ) BODY

## DEPENDENT VARIABLE H/HREF

X/L	.1700	.3000	.4000	.4250	.5000	.6000	.7000	.8250
Z(WL)								
375.000	*****	.0002		.0020	.0001	.0004		
400.000			.0032					
425.000		.0042	.0045	*****	.0026	.0019		
465.000							*****	
501.000	.0332	.0904	.0047		.0054	.0003	.0040	

## IH19 822C7F5M4V7W111 T8 ORBITER UPPER FUSELAGE

(RQEU03)

ALPHA ( 2 ) = -5.000 HAW/HT( 1 ) = .850 RN/L = .38200 PO = 4022.3 TO = 2959.6 HO = .51000-01

## SECTION ( 1 ) BODY

## DEPENDENT VARIABLE H/HREF

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

## Z(WL)

375.000	*****	.0001	.0020*****	.0005
400.000		.0033		
425.000	.0044	.0037	*****	.0024 .0028
465.000				*****
501.000	.0288*****	.0036	.0037 .0002	.0040

ALPHA ( 2 ) = -5.000 HAW/HT( 2 ) = .900 RN/L = .38200 PO = 4022.3 TO = 2959.6 HO = .51000-01

## SECTION ( 1 ) BODY

## DEPENDENT VARIABLE H/HREF

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

## Z(WL)

375.000	*****	.0001	.0019*****	.0005
400.000		.0031		
425.000	.0041	.0035	*****	.0022 .0026
465.000				*****
501.000	.0267*****	.0033	.0035 .0001	.0037

ALPHA ( 2 ) = -5.000 HAW/HT( 3 ) = 1.000 RN/L = .38200 PO = 4022.3 TO = 2959.6 HO = .51000-01

## SECTION ( 1 ) BODY

## DEPENDENT VARIABLE H/HREF

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

## Z(WL)

375.000	*****	.0001	.0016*****	.0004
400.000		.0027		
425.000	.0036	.0030	*****	.0019 .0023
465.000				*****
501.000	.0233*****	.0029	.0030 .0001	.0032

ALPHA ( 3 ) = .000 HAW/HT( 1 ) = .850 RN/L = .36500 PO = 4066.2 TO = 3039.6 HO = .51000-01

## SECTION ( 1 ) BODY

## DEPENDENT VARIABLE H/HREF

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

## Z(WL)

375.000	*****	.0002	.0007*****	.0008
400.000		.0037		
425.000	.0060	.0014	*****	.0024 .0013
465.000				*****
501.000	.0661*****	.0009	.0024*****	.0014

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TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 B22C7F5M4V7W111 T8 ORBITER UPPER FUSELAGE

(RQEU03)

ALPHA ( 3 ) = .000 HAW/HT( 2 ) = .900 RN/L = .36500 PO = 4066.2 TO = 3039.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z(WL)

375.000	*****	.0002	.0007*****	.0008
400.000		.0035		
425.000	.0055	.0013	***** .0023	.0012
465.000				*****
501.000	.0614*****	.0008	.0022*****	.0013

ALPHA ( 3 ) = .000 HAW/HT( 3 ) = 1.000 RN/L = .36500 PO = 4066.2 TO = 3039.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z(WL)

375.000	*****	.0001	.0006*****	.0007
400.000		.0030		
425.000	.0049	.0011	***** .0020	.0010
465.000				*****
501.000	.0539*****	.0007	.0019*****	.0012

ALPHA ( 4 ) = 5.000 HAW/HT( 1 ) = .850 RN/L = .36200 PO = 4029.4 TO = 3039.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z(WL)

375.000	*****	.0001	.0016*****	.0005
400.000		.0030		
425.000	.0037	.0027	***** .0016	.0008
465.000				.0002
501.000	.0364 .0006 .0028		.0020*****	.0015

ALPHA ( 4 ) = 5.000 HAW/HT( 2 ) = .900 RN/L = .36200 PO = 4029.4 TO = 3039.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z(WL)

375.000	*****	.0001	.0015*****	.0004
400.000		.0021		
425.000	.0035	.0025	***** .0015	.0008
465.000				.0002
501.000	.0338 .0006 .0027		.0019*****	.0014

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR



1H19 B22C7F5M4V7W111 T8 ORBITER UPPER FUSELAGE

(RQEU03)

ALPHA ( 4 ) = 5.000 HAW/HT( 3 ) = 1.000 RN/L = .36200 PO = 4029.4 TO = 3039.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

X/L	.1700	.3000	.4000	.4250	.5000	.6000	.7000	.8250
Z(WL)								
375.000	*****	.0001		.0013	*****		.0004	
400.000				.0019				
425.000		.0030	.0022		*****	.0013	.0007	
465.000								.0001
501.000	.0296	.0005	.0023		.0016	*****	.0012	

ALPHA ( 5 ) = 10.000 HAW/HT( 1 ) = .850 RN/L = .36900 PO = 4027.6 TO = 3009.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

X/L	.1700	.3000	.4000	.4250	.5000	.6000	.7000	.8250
Z(WL)								
375.000	*****	.0002		.0018	.0002	.0005		
400.000				.0027				
425.000		.0030	.0016		*****	.0019	.0006	
465.000								.0002
501.000	.0136	.0002	.0018		.0017	.0003	.0008	

ALPHA ( 5 ) = 13.000 HAW/HT( 2 ) = .900 RN/L = .36900 PO = 4027.6 TO = 3009.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

X/L	.1700	.3000	.4000	.4250	.5000	.6000	.7000	.8250
Z(WL)								
375.000	*****	.0002		.0016	.0002	.0005		
400.000				.0025				
425.000		.0028	.0015		*****	.0018	.0005	
465.000								.0001
501.000	.0126	.0002	.0017		.0016	.0003	.0008	

ALPHA ( 5 ) = 10.000 HAW/HT( 3 ) = 1.000 RN/L = .36900 PO = 4027.6 TO = 3009.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

X/L	.1700	.3000	.4000	.4250	.5000	.6000	.7000	.8250
Z(WL)								
375.000	*****	.0001		.0014	.0002	.0004		
400.000				.0022				
425.000		.0024	.0013		*****	.0016	.0005	
465.000								.0001
501.000	.0111	.0002	.0015		.0014	.0002	.0007	

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 B22C7F5M4V7W111 T8 ORBITER UPPER FUSELAGE

(RQEU04) ( 03 NOV 75 )

## REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000  
 LREF = 1290.3000 IN. YMRP = .0000  
 BREF = 1290.3000 IN. ZMRP = .0000  
 SCALE = .0060

## PARAMETRIC DATA

BETA = .000 RN/L = .500  
 BLTRIP = .030 DELTAH = .175  
 MACH = 19.800

ALPHA ( 1 ) = -10.000 HAW/HT( 1 ) = .850 RN/L = .37900 PO = 3992.5 TO = 2959.6 HO = .51000-01

## SECTION ( 1 ) BODY

## DEPENDENT VARIABLE H/HREF

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z(WL)  
 375.000 ..... .0005 .0025 .0005 .0009  
 400.000 ..... .0042 ..... .0043 .0036 .....  
 425.000 .0063 .0062 .....  
 465.000 .....  
 501.000 .0716 .0001 .0062 .0074 ..... .0065

ALPHA ( 1 ) = -10.000 HAW/HT( 2 ) = .900 RN/L = .37900 PO = 3992.5 TO = 2959.6 HO = .51000-01

## SECTION ( 1 ) BODY

## DEPENDENT VARIABLE H/HREF

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z(WL)  
 375.000 ..... .0005 .0023 .0004 .0009  
 400.000 ..... .0039 ..... .0040 .0033 .....  
 425.000 .0059 .0057 .....  
 465.000 .....  
 501.000 .0665 .0001 .0058 .0069 ..... .0061

ALPHA ( 1 ) = -10.000 HAW/HT( 3 ) = 1.000 RN/L = .37900 PO = 3992.5 TO = 2959.6 HO = .51000-01

## SECTION ( 1 ) BODY

## DEPENDENT VARIABLE H/HREF

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z(WL)  
 375.000 ..... .0004 .0021 .0004 .0008  
 400.000 ..... .0034 ..... .0035 .0029 .....  
 425.000 .0051 .0050 .....  
 465.000 .....  
 501.000 .0582 .0001 .0051 .0061 ..... .0053

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TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 922C7F5M4V7N111 TB ORBITER UPPER FUSELAGE

(RQEU04)

ALPHA ( 2 ) = -5.000 HAW/HT( 1 ) = .850 RN/L = .38000 PO = 4032.9 TO = 2969.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z(WL)

375.000

.0080

.0002

.0031

.0001

.0005

400.000

.0038

.0026

.0025

425.000

.0057

.0035

\*\*\*\*\*

.0039\*\*\*\*\*

.0054

465.000

501.000

.0556

.0001

.0031

.0039\*\*\*\*\*

.0054

ALPHA ( 2 ) = -5.000 HAW/HT( 2 ) = .900 RN/L = .38000 PO = 4032.9 TO = 2969.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z(WL)

375.000

.0071

.0002

.0029

.0001

.0005

400.000

.0035

.0024

.0023

425.000

.0053

.0033

\*\*\*\*\*

.0037\*\*\*\*\*

.0050

465.000

501.000

.0517

.0001

.0029

.0037\*\*\*\*\*

.0050

ALPHA ( 2 ) = -5.000 HAW/HT( 3 ) = 1.000 RN/L = .38000 PO = 4032.9 TO = 2969.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z(WL)

375.000

.0058

.0001

.0025

.0001

.0004

400.000

.0031

.0021

.0020

425.000

.0047

.0029

\*\*\*\*\*

.0032\*\*\*\*\*

.0044

465.000

501.000

.0453

.0001

.0026

.0032\*\*\*\*\*

.0044

ALPHA ( 3 ) = .000 HAW/HT( 1 ) = .850 RN/L = .36000 PO = 4013.6 TO = 3039.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z(WL)

375.000

\*\*\*\*\*

.0009

.0018

.0002

.0007

400.000

.0034

.0022

.0020

425.000

.0044

.0021

\*\*\*\*\*

.0014\*\*\*\*\*

.0013

465.000

501.000

.0463

.0012

.0019

.0014\*\*\*\*\*

.0013

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TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 B22C7F5M4V7W111 TB ORBITER UPPER FUSELAGE

(RQEU04)

ALPHA ( 3 ) = .000 HAW/HT ( 2 ) = .900 RN/L = .36000 PO = 4013.6 TO = 3039.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z(WL)

375.000	*****	.0008	.0017	.0002	.0007	
400.000		.0031				
425.000	.0041	.0019	*****	.0020	.0019	
465.000					*****	
501.000	.0430	.0011	.0017	.0013*****	.0012	

ALPHA ( 3 ) = .000 HAW/HT ( 3 ) = 1.000 RN/L = .36000 PO = 4013.6 TO = 3039.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z(WL)

375.000	*****	.0007	.0015	.0002	.0006	
400.000		.0027				
425.000	.0036	.0017	*****	.0018	.0016	
465.000					*****	
501.000	.0376	.0009	.0015	.0011*****	.0011	

ALPHA ( 4 ) = 5.000 HAW/HT ( 1 ) = .850 RN/L = .37900 PO = 4020.6 TO = 2969.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z(WL)

375.000	.0079	.0004	.0022*****	.0002	
400.000		.0027			
425.000	.0034	.0028	*****	.0018	.0009
465.000					*****
501.000	.0249	.0001	.0027	.0020*****	.0011

ALPHA ( 4 ) = 5.000 HAW/HT ( 2 ) = .900 RN/L = .37900 PO = 4020.6 TO = 2969.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z(WL)

375.000	.0071	.0003	.0020*****	.0002	
400.000		.0025			
425.000	.0032	.0026	*****	.0017	.0009
465.000					*****
501.000	.0232	.0001	.0025	.0018*****	.0010

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TABULATED SOURCE DATA - LACR N2-28 (1H19)

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1H19 B22C7F5M4V7W111 T8 ORBITER UPPER FUSELAGE

(RQEU04)

ALPHA ( 4 ) = 5.000 HAW/HT ( 3 ) = 1.000 RN/L = .37900 PO = 4020.6 TO = 2989.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

X/L	.1700	.3000	.4000	.4250	.5000	.6000	.7000	.8250
Z (WL)								
375.000		.0059	.0003		.0018*****		.0002	
400.000				.0022				
425.000		.0028	.0023		*****	.0015	.0007	*****
465.000								
501.000	.0203	.0001	.0022		.0016*****	*	.0009	

ALPHA ( 5 ) = 10.000 HAW/HT ( 1 ) = .850 RN/L = .36900 PO = 3967.9 TO = 2989.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

X/L	.1700	.3000	.4000	.4250	.5000	.6000	.7000	.8250
Z (WL)								
375.000		*****	.0002		.0013	.0001	.0001	
400.000				.0023				
425.000		.0029	.0020		*****	.0017	.0014	
465.000								.0002
501.000	.0116	.0002	.0013		.0015	.0000	.0007	

ALPHA ( 5 ) = 10.000 HAW/HT ( 2 ) = .900 RN/L = .36900 PO = 3967.9 TO = 2989.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

X/L	.1700	.3000	.4000	.4250	.5000	.6000	.7000	.8250
Z (WL)								
375.000		*****	.0002		.0012	.0001	.0001	
400.000				.0022				
425.000		.0027	.0018		*****	.0015	.0013	
465.000								.0002
501.000	.0108	.0002	.0012		.0014	.0000	.0007	

ALPHA ( 5 ) = 10.000 HAW/HT ( 3 ) = 1.000 RN/L = .36900 PO = 3967.9 TO = 2989.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

X/L	.1700	.3000	.4000	.4250	.5000	.6000	.7000	.8250
Z (WL)								
375.000		*****	.0001		.0011	.0001	.0001	
400.000				.0019				
425.000		.0024	.0016		*****	.0014	.0012	
465.000								.0001
501.000	.0194	.0002	.0011		.0013	.0000	.0006	

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TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 B22C7F5M4V7W111 ORBITER UPPER FUSELAGE

(RGEU05) ( 03 NOV 75 )

## REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000  
 LREF = 1290.3000 IN. YMRP = .0000  
 BREF = 1290.3000 IN. ZMRP = .0000  
 SCALE = .0000

## PARAMETRIC DATA

BETA = .000 RN/L = .500  
 BLTRIP = .000 MACH = 19.800

ALPHA ( 1 ) = -10.000 HAW/HT ( 1 ) = .850 RN/L = .38000 PO = 4008.3 TO = 2959.6 HO = .51000-01

## SECTION ( 1 ) BODY

## DEPENDENT VARIABLE H/HREF

X/L	.1700	.3000	.4000	.4250	.5000	.6000	.7000	.8250
Z (HL)								
375.000		.0006*****			.0028	.0001	.0005	
400.000				.0042				
425.000		.0058	.0078		*****	.0040	.0031	
465.000								.0002
501.000	.0694*****	.0087			.0088	.0003	.0062	

ALPHA ( 1 ) = -10.000 HAW/HT ( 2 ) = .900 RN/L = .38000 PO = 4008.3 TO = 2959.6 HO = .51000-01

## SECTION ( 1 ) BODY

## DEPENDENT VARIABLE H/HREF

X/L	.1700	.3000	.4000	.4250	.5000	.6000	.7000	.8250
Z (HL)								
375.000		.0005*****			.0026	.0001	.0005	
400.000				.0039				
425.000		.0054	.0072		*****	.0037	.0029	
465.000								.0002
501.000	.0644*****	.0081			.0082	.0003	.0058	

ALPHA ( 1 ) = -10.000 HAW/HT ( 3 ) = 1.000 RN/L = .38000 PO = 4008.3 TO = 2959.6 HO = .51000-01

## SECTION ( 1 ) BODY

## DEPENDENT VARIABLE H/HREF

X/L	.1700	.3000	.4000	.4250	.5000	.6000	.7000	.8250
Z (HL)								
375.000		.0005*****			.0023	.0001	.0004	
400.000				.0034				
425.000		.0047	.0063		*****	.0032	.0025	
465.000								.0002
501.000	.0562*****	.0071			.0072	.0002	.0051	

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TABULATED SOURCE DATA - LACR N2-28 (IH19)

IH19 822C7F5M4V7W111 ORBITER UPPER FUSELAGE

(RQEU05)

ALPHA ( 2 ) = -5.000 HAW/HT( 1 ) = .850 RN/L = .38000 PO = 4004.8 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) BODY DEPENDENT VARIABLE H/HREF

X/L	.1700	.3000	.4000	.4250	.5000	.6000	.7000	.8250
Z(WL)								
375.000		.0002*****			.0017*****		.0009	
400.000				.0033			.0017	
425.000		.0050	.0045			.0028		.0001
465.000							.0059	
501.000	.0664*****		.0047		.0061*****			

ALPHA ( 2 ) = -5.000 HAW/HT( 2 ) = .900 RN/L = .38000 PO = 4004.8 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) BODY DEPENDENT VARIABLE H/HREF

X/L	.1700	.3000	.4000	.4250	.5000	.6000	.7000	.8250
Z(WL)								
375.000		.0002*****			.0016*****		.0008	
400.000				.0031			.0016	
425.000		.0047	.0041			.0026		.0001
465.000							.0055	
501.000	.0617*****		.0044		.0057*****			

ALPHA ( 2 ) = -5.000 HAW/HT( 3 ) = 1.000 RN/L = .38000 PO = 4004.8 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) BODY DEPENDENT VARIABLE H/HREF

X/L	.1700	.3000	.4000	.4250	.5000	.6000	.7000	.8250
Z(WL)								
375.000		.0002*****			.0014*****		.0007	
400.000				.0027			.0014	
425.000		.0041	.0036			.0023		.0001
465.000							.0048	
501.000	.0540*****		.0038		.0050*****			

ALPHA ( 3 ) = .000 HAW/HT( 1 ) = .850 RN/L = .35800 PO = 3982.0 TO = 3039.6 HO = .50000-01

SECTION ( 1 ) BODY DEPENDENT VARIABLE H/HREF

X/L	.1700	.3000	.4000	.4250	.5000	.6000	.7000	.8250
Z(WL)								
375.000		.0015*****			.0017	.0002	.0005	
400.000				.0026				
425.000		.0042	.0032			.0016*****		.0002
465.000								
501.000	.0480*****		.0030		.0027	.0004	.0026	

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TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 B22C7F5M4V7W111

ORBITER UPPER FUSELAGE

(RQEU05)

ALPHA ( 3 ) = .000 HAW/HT( 2 ) = .900 RN/L = .35800 PO = 3982.0 TO = 3039.6 HO = .50000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z(WL)

375.000 .0014\*\*\*\*\* .0016 .0002 .0005  
 400.000 .0024 \*\*\*\*\* .0015\*\*\*\*\*  
 425.000 .0040 .0030 .0002  
 465.000 .0025 .0003 .0024  
 501.000 .0028 .0002

ALPHA ( 3 ) = .000 HAW/HT( 3 ) = 1.000 RN/L = .35800 PO = 3982.0 TO = 3039.6 HO = .50000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z(WL)

375.000 .0012\*\*\*\*\* .0014 .0001 .0004  
 400.000 .0021 \*\*\*\*\* .0013\*\*\*\*\*  
 425.000 .0035 .0026 .0002  
 465.000 .0022 .0003 .0021  
 501.000 .0024 .0002

ALPHA ( 4 ) = 5.000 HAW/HT( 1 ) = .850 RN/L = .36400 PO = 3975.0 TO = 3009.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z(WL)

375.000 .0002\*\*\*\*\* .0021 .0001 .0002  
 400.000 .0024 \*\*\*\*\* .0011 .0011  
 425.000 .0044 .0024 .0001  
 465.000 .0015\*\*\*\*\* .0010  
 501.000 .0021 .0002

ALPHA ( 4 ) = 5.000 HAW/HT( 2 ) = .900 RN/L = .36400 PO = 3975.0 TO = 3009.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z(WL)

375.000 .0002\*\*\*\*\* .0020 .0001 .0002  
 400.000 .0022 \*\*\*\*\* .0010 .0010  
 425.000 .0041 .0022 .0001  
 465.000 .0014\*\*\*\*\* .0009  
 501.000 .0019 .0002



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TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 B22C7F5M4V7W111

ORBITER UPPER FUSELAGE

(R0EU05)

ALPHA ( 4 ) = 5.000 HAW/HT( 3 ) = 1.000 RN/L = .36400 PO = 3975.0 TO = 3009.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z(WL)

375.000 .0002\*\*\*\*\* .0017 .0000 .0002  
 400.000 .0020  
 425.000 .0036 .0019 \*\*\*\*\* .0009 .0009  
 465.000 .0001  
 501.000 .0301\*\*\*\*\* .0017 .0013\*\*\*\*\* .0

ALPHA ( 5 ) = 10.000 HAW/HT( 1 ) = .850 RN/L = .38100 PO = 4011.8 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z(WL)

375.000 .0002\*\*\*\*\* .0033\*\*\*\*\* .0007  
 400.000 .0033  
 425.000 .0042 .0024 \*\*\*\*\* .0024 .0028  
 465.000 .0001  
 501.000 .0237\*\*\*\*\* .0022 .0011 .0001 .0007

ALPHA ( 5 ) = 10.000 HAW/HT( 2 ) = .900 RN/L = .38100 PO = 4011.8 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z(WL)

375.000 .0002\*\*\*\*\* .0030\*\*\*\*\* .0007  
 400.000 .0031  
 425.000 .0039 .0023 \*\*\*\*\* .0022 .0026  
 465.000 .0001  
 501.000 .0220\*\*\*\*\* .0021 .0011 .0001 .0007

ALPHA ( 5 ) = 10.000 HAW/HT( 3 ) = 1.000 RN/L = .38100 PO = 4011.8 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z(WL)

375.000 .0002\*\*\*\*\* .0027\*\*\*\*\* .0006  
 400.000 .0027  
 425.000 .0035 .0020 \*\*\*\*\* .0020 .0023  
 465.000 .0001  
 501.000 .0193\*\*\*\*\* .0018 .0009 .0001 .0006

DATE 03 NOV 75

## TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 B22C7F5M4V7W111

ORBITER UPPER FUSELAGE

(RQEU06) ( 03 NOV 75 )

## REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000  
 LREF = 1290.3000 IN. YMRP = .0000  
 BREF = 1290.3000 IN. ZMRP = .0000  
 SCALE = .0060

## PARAMETRIC DATA

BETA = .000 RN/L = .500  
 BLTRIP = .000 MACH = 19.800

ALPHA ( 1 ) = -10.000 HAW/HT ( 1 ) = .850 RN/L = .35500 PO = 4010.1 TO = 3019.6 HO = .51000-01  
 SECTION ( 1 ) BODY

## DEPENDENT VARIABLE H/HREF

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z(WL)

375.000 .0024\*\*\*\*\* .0028\*\*\*\*\* .0004  
 400.000 .0041\*\*\*\*\* .0036 .0031  
 425.000 .0062 .0087 .0090 .0068  
 465.000 .0783\*\*\*\*\* .0090 .0068  
 501.000 .0783\*\*\*\*\* .0090 .0068

ALPHA ( 1 ) = -10.000 HAW/HT ( 2 ) = .900 RN/L = .35500 PO = 4010.1 TO = 3019.6 HO = .51000-01  
 SECTION ( 1 ) BODY

## DEPENDENT VARIABLE H/HREF

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z(WL)

375.000 .0023\*\*\*\*\* .0026\*\*\*\*\* .0004  
 400.000 .0038\*\*\*\*\* .0033 .0029  
 425.000 .0058 .0081 .0084 .0063  
 465.000 .0727\*\*\*\*\* .0084 .0063  
 501.000 .0727\*\*\*\*\* .0084 .0063

ALPHA ( 1 ) = -10.000 HAW/HT ( 3 ) = 1.000 RN/L = .36500 PO = 4010.1 TO = 3019.6 HO = .51000-01  
 SECTION ( 1 ) BODY

## DEPENDENT VARIABLE H/HREF

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z(WL)

375.000 .0021\*\*\*\*\* .0023\*\*\*\*\* .0003  
 400.000 .0034\*\*\*\*\* .0029 .0025  
 425.000 .0051 .0071 .0073 .0056  
 465.000 .0635\*\*\*\*\* .0073 .0056  
 501.000 .0635\*\*\*\*\* .0073 .0056

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TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 B22C7F5M4V7W111

ORBITER UPPER FUSELAGE

(RQEU06)

ALPHA ( 2 ) = -5.000 HAW/HT( 1 ) = .850 RN/L = .36400 PO = 3999.5 TO = 3019.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z(HL)

375.000

.0021\*\*\*\*\*

.0019

.0001

.0006

400.000

.0031

425.000

.0051

.0050

.0003

.0025

.0023

465.000

501.000

.0740\*\*\*\*\*

.0052

.0052\*\*\*\*\*

.0058

ALPHA ( 2 ) = -5.000 HAW/HT( 2 ) = .900 RN/L = .36400 PO = 3999.5 TO = 3019.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z(HL)

375.000

.0020\*\*\*\*\*

.0017

.0001

.0006

400.000

.0029

425.000

.0048

.0047

.0029

.0023

.0022

465.000

501.000

.0687\*\*\*\*\*

.0048

.0049\*\*\*\*\*

.0054

ALPHA ( 2 ) = -5.000 HAW/HT( 3 ) = 1.000 RN/L = .36400 PO = 3999.5 TO = 3019.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z(HL)

375.000

.0018\*\*\*\*\*

.0015

.0001

.0005

400.000

.0025

425.000

.0042

.0041

.0025

.0021

.0019

465.000

501.000

.0601\*\*\*\*\*

.0042

.0043\*\*\*\*\*

.0048

ALPHA ( 3 ) = .000 HAW/HT( 1 ) = .850 RN/L = .35600 PO = 3966.2 TO = 3039.6 HO = .50000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z(HL)

375.000

\*\*\*\*\*

.0066

.0019

.0000

.0006

400.000

.0030

425.000

.0043

.0025

.0030

.0024

.0018

465.000

501.000

.0460

.0072

.0024

.0029

.0002

.0025

.0001

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TABULATED SOURCE DATA - LACR N2-28 (IH19)

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		IH19 822C7F5M4V7W111 ORBITER UPPER FUSELAGE						(RQEU06)			
ALPHA ( 3 ) =	.000	HAW/HT( 2 ) =	.900	RN/L =	.35600	PO =	3966.2	TO =	3039.6	HO =	.50000-01
SECTION ( 1 ) BODY		DEPENDENT VARIABLE H/HREF									
X/L	.1700	.3000	.4000	.4250	.5000	.6000	.7000	.8250			
Z(WL)											
375.000	*****	.0059		.0018	.0000	.0005					
400.000			.0029								
425.000	.0040	.0023		*****	.0022	.0017					
465.000											
501.000	.0428	.0064	.0022		.0027	.0002	.0023	.0001			
ALPHA ( 3 ) =	.000	HAW/HT( 3 ) =	1.000	RN/L =	.35600	PO =	3966.2	TO =	3039.6	HO =	.50000-01
SECTION ( 1 ) BODY		DEPENDENT VARIABLE H/HREF									
X/L	.1700	.3000	.4000	.4250	.5000	.6000	.7000	.8250			
Z(WL)											
375.000	*****	.0049		.0016	.0000	.0005					
400.000			.0024								
425.000	.0035	.0020		*****	.0019	.0015					
465.000											
501.000	.0376	.0053	.0020		.0024	.0002	.0020	.0001			
ALPHA ( 4 ) =	5.000	HAW/HT( 1 ) =	.850	RN/L =	.39500	PO =	4018.8	TO =	2909.6	HO =	.52000-01
SECTION ( 1 ) BODY		DEPENDENT VARIABLE H/HREF									
X/L	.1700	.3000	.4000	.4250	.5000	.6000	.7000	.8250			
Z(WL)											
375.000	.0016*****			.0023*****	.0008						
400.000			.0028								
425.000	.0041	.0021		*****	.0018	.0020					
465.000											
501.000	.0387*****	.0021		.0022*****	.0014	.0003					
ALPHA ( 4 ) =	5.000	HAW/HT( 2 ) =	.900	RN/L =	.39500	PO =	4018.8	TO =	2909.6	HO =	.52000-01
SECTION ( 1 ) BODY		DEPENDENT VARIABLE H/HREF									
X/L	.1700	.3000	.4000	.4250	.5000	.6000	.7000	.8250			
Z(WL)											
375.000	.0015*****			.0021*****	.0007						
400.000			.0026								
425.000	.0038	.0019		*****	.0017	.0018					
465.000											
501.000	.0360*****	.0020		.0020*****	.0013	.0002					

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

PAGE 80

IH19 B22C7F5M4V7W111

ORBITER UPPER FUSELAGE

(RQEU06)

ALPHA ( 4 ) = 5.000 HAW/HT( 3 ) = 1.000 RN/L = .39500 PO = 4018.8 TO = 2909.6 HO = .52000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z(WL)

375.000 .0013\*\*\*\*\* .0019\*\*\*\*\* .0006  
 400.000 .0022\*\*\*\*\* .0014 .0016  
 425.000 .0034 .0017 .0002  
 465.000 .0018\*\*\*\*\* .0012  
 501.000 .0315\*\*\*\*\* .0017

ALPHA ( 5 ) = 10.000 HAW/HT( 1 ) = .850 RN/L = .38000 PO = 4006.5 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z(WL)

375.000 .0029\*\*\*\*\* .0029\*\*\*\*\* .0006  
 400.000 .0033\*\*\*\*\* .0025 .0028  
 425.000 .0042 .0028 .0001  
 465.000 .0019\*\*\*\*\* .0009  
 501.000 .0242 .0073 .0019

ALPHA ( 5 ) = 10.000 HAW/HT( 2 ) = .900 RN/L = .38000 PO = 4006.5 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z(WL)

375.000 .0028\*\*\*\*\* .0027\*\*\*\*\* .0005  
 400.000 .0031\*\*\*\*\* .0023 .0026  
 425.000 .0039 .0026 .0001  
 465.000 .0018\*\*\*\*\* .0008  
 501.000 .0225 .0065 .0018

ALPHA ( 5 ) = 10.000 HAW/HT( 3 ) = 1.000 RN/L = .38000 PO = 4006.5 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE H/HREF

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z(WL)

375.000 .0026\*\*\*\*\* .0023\*\*\*\*\* .0004  
 400.000 .0027\*\*\*\*\* .0020 .0023  
 425.000 .0034 .0023 .0001  
 465.000 .0016\*\*\*\*\* .0007  
 501.000 .0197 .0053 .0015

DATE 03 NOV 75

TABULATED SOURCE DATA - LAGR N2-28 (1H19)

PAGE 81

1H19 B22C7F5M4V7W111 T8 ORBITER LOWER WING

(RQEW03) ( 03 NOV 75 )

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000  
LREF = 1290.3000 IN. YMRP = .0000  
BREF = 1290.3000 IN. ZMRP = .0000  
SCALE = .0060

PARAMETRIC DATA

BETA = .000 RN/L = .500  
BLTRIP = .000 DELTAH = .175  
MACH = 19.800

ALPHA ( 1 ) = -10.000 HAW/HT ( 1 ) = .850 RN/L = .36800 PO = 4011.8 TO = 3009.6 HO = .51000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0138		
.100	.0122	.0223	
.200	.0065	.0133	.0162
.300	.0038	.0069	
.400	.0028	.0051	.0100
.500	.0023	.0042	
.600	.0021	.0035	.0058
.700	.0018	.0033	
.800	.0017	.0026	.0046
.900	*****	.0014	

ALPHA ( 1 ) = -10.000 HAW/HT ( 2 ) = .900 RN/L = .36800 PO = 4011.8 TO = 3009.6 HO = .51000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0128		
.100	.0114	.0207	
.200	.0061	.0123	.0150
.300	.0035	.0064	
.400	.0026	.0048	.0093
.500	.0022	.0039	
.600	.0019	.0033	.0054
.700	.0017	.0031	
.800	.0015	.0024	.0043
.900	*****	.0013	

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

PAGE 82

IH19 B22C7F5M4V7W111 T8 ORBITER LOWER WING

(RQEW03)

ALPHA ( 1 ) = -10.000 HAW/HT( 3 ) = 1.000 RN/L = .36800 PO = 4011.8 TO = 3009.6 HO = .51000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0112		
.100	.0100	.0182	
.200	.0053	.0108	.0132
.300	.0031	.0057	
.400	.0023	.0042	.0081
.500	.0019	.0035	
.600	.0017	.0029	.0048
.700	.0015	.0027	
.800	.0014	.0021	.0038
.900	*****	.0012	

ALPHA ( 2 ) = -5.000 HAW/HT( 1 ) = .850 RN/L = .38200 PO = 4022.3 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0089		
.100	.0087	.0193	
.200	.0054	.0134	.0175
.300	.0027	.0070	
.400	.0021	.0045	.0112
.500	.0017	.0036	
.600	.0013	.0033	.0065
.700	.0014	.0028	
.800	.0012	.0020	.0048
.900	*****	.0020	

ALPHA ( 2 ) = -5.000 HAW/HT( 2 ) = .900 RN/L = .38200 PO = 4022.3 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0083		
.100	.0081	.0179	
.200	.0051	.0125	.0163
.300	.0025	.0065	
.400	.0019	.0042	.0104
.500	.0016	.0033	
.600	.0012	.0031	.0061
.700	.0013	.0026	
.800	.0011	.0019	.0045

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

PAGE 83

IH19 B22C7F5M4V7W111 TB ORBITER LOWER WING

(RDEW03)

ALPHA ( 2 ) = -5.000 HAW/HT( 2 ) = .900

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.900 \*\*\*\*\* .0018

ALPHA ( 2 ) = -5.000 HAW/HT( 3 ) = 1.000 RN/L = .38200 PO = 4022.3 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0073		
.100	.0071	.0157	
.200	.0044	.0110	.0143
.300	.0022	.0057	
.400	.0017	.0037	.0052
.500	.0014	.0029	
.600	.0011	.0027	.0053
.700	.0011	.0023	
.800	.0010	.0016	.0039
.900	*****	.0016	

ALPHA ( 3 ) = .000 HAW/HT( 1 ) = .850 RN/L = .36500 PO = 4066.2 TO = 3039.6 HO = .51000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0101		
.100	.0087	.0161	
.200	.0055	.0112	.0207
.300	.0039	.0083	
.400	.0037	.0067	.0132
.500	.0034	.0058	
.600	.0029	.0049	.0088
.700	.0025	.0042	
.800	.0020	.0032	.0063
.900	*****	.0022	



DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (1H19)

PAGE 84

IH19 B22C7F5M4V7H111 TB ORBITER LOWER WING

(RQEH03)

ALPHA ( 3 ) = .000 HAW/HT( 2 ) = .800 RN/L = .36500 PO = 4066.2 TO = 3039.6 HO = .51000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0094		
.100	.0081	.0150	
.200	.0051	.0104	.0193
.300	.0037	.0077	
.400	.0034	.0063	.0123
.500	.0032	.0054	
.600	.0027	.0046	.0082
.700	.0023	.0039	
.800	.0019	.0029	.0059
.900	*****	.0021	

ALPHA ( 3 ) = .000 HAW/HT( 3 ) = 1.000 RN/L = .36500 PO = 4066.2 TO = 3039.6 HO = .51000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0083		
.100	.0071	.0131	
.200	.0045	.0091	.0169
.300	.0032	.0067	
.400	.0030	.0055	.0108
.500	.0028	.0048	
.600	.0023	.0040	.0072
.700	.0020	.0035	
.800	.0017	.0026	.0052
.900	*****	.0018	

ALPHA ( 4 ) = 5.000 HAW/HT( 1 ) = .850 RN/L = .36200 PO = 4029.4 TO = 3039.6 HO = .51000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0058		
.100	.0055	.0126	
.200	.0035	.0092	.0180
.300	.0025	.0066	
.400	.0023	.0056	.0123
.500	.0020	.0048	
.600	.0020	.0044	.0083
.700	.0017	.0044	
.800	.0016	.0033	.0065

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

(ROEH03)

IH19 B22C7F5M4V7W111 T8 ORBITER LOWER WING

ALPHA ( 4 ) = 5.000 HAW/HT( 1 ) = .850

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C  
.900 \*\*\*\*\* .0017

ALPHA ( 4 ) = 5.000 HAW/HT( 2 ) = .900

RN/L = .36200 PO = 4029.4 TO = 3039.6 HO = .51000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C			
.050	.0063		
.100	.0051	.0117	
.200	.0032	.0085	.0168
.300	.0024	.0062	
.400	.0021	.0052	.0114
.500	.0018	.0044	
.600	.0018	.0041	.0077
.700	.0016	.0041	
.800	.0015	.0031	.0060
.900	.0016		

ALPHA ( 4 ) = 5.000 HAW/HT( 3 ) = 1.000

RN/L = .36200 PO = 4029.4 TO = 3039.6 HO = .51000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C			
.050	.0055		
.100	.0045	.0103	
.200	.0028	.0075	.0147
.300	.0021	.0054	
.400	.0019	.0046	.0100
.500	.0016	.0039	
.600	.0016	.0036	.0068
.700	.0014	.0036	
.800	.0013	.0027	.0053
.900	.0014		

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

PAGE 85

IH19 B22C7F5M4V7W111 T8 ORBITER LOWER WING

(RQEW03)

ALPHA ( 5) = 10.000 HAW/HT( 1) = .850 RN/L = .36900 PO = 4027.6 TO = 3009.6 HO = .51000-01

SECTION ( 1) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0019		
.100	.0020	.0151	
.200	.0018	.0116	.0189
.300	.0018	.0091	
.400	.0017	.0076	.0141
.500	.0015	.0068	
.600	.0019	.0067	.0094
.700	.0015	.0057	
.800	.0016	.0047	.0075
.900	*****	.0028	

ALPHA ( 5) = 10.000 HAW/HT( 2) = .900 RN/L = .36900 PO = 4027.6 TO = 3009.6 HO = .51000-01

SECTION ( 1) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0018		
.100	.0019	.0141	
.200	.0017	.0108	.0176
.300	.0017	.0085	
.400	.0016	.0071	.0131
.500	.0014	.0063	
.600	.0018	.0062	.0087
.700	.0014	.0053	
.800	.0015	.0044	.0070
.900	*****	.0026	

ALPHA ( 5) = 10.000 HAW/HT( 3) = 1.000 RN/L = .36900 PO = 4027.6 TO = 3009.6 HO = .51000-01

SECTION ( 1) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0016		
.100	.0016	.0123	
.200	.0014	.0095	.0154
.300	.0015	.0074	
.400	.0014	.0062	.0115
.500	.0012	.0055	
.600	.0016	.0054	.0076
.700	.0012	.0047	
.800	.0013	.0038	.0061

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (1H19)

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1H19 922C7F5M4V7W111 T8 ORBITER LOWER WING

(RQEW03)

ALPHA ( 5 ) = 10.000 HAW/HT ( 3 ) = 1.000

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C  
.900 \*\*\*\*\* .0023

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (1P19)

PAGE 88

IH19 B22C7F5M4V7W11' 18 ORBITER LOWER WING

(RQEW04) ( 03 NOV 75 )

## REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0002  
 LREF = 1290.3000 IN. YMRP = .0000  
 BREF = 1290.3000 IN. ZMRP = .0000  
 SCALE = .0060

BETA = .000 RN/L = .500  
 BLTRIP = .030 DELTAH = .175  
 MACH = 19.800

## PARAMETRIC DATA

ALPHA ( 1 ) = -10.000 HAW/HT ( 1 ) = .850 RN/L = .37900 PO = 3992.5 TO = 2959.6 HO = .51000-01

## SECTION ( 1 ) WING

## DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

## X/C

.050 .0140  
 .100 .0104 .0176  
 .200 .0065 .0114 .0171  
 .300 .0043 .0080  
 .400 .0037 .0066 .0104  
 .500 .0027 .0053  
 .600 .0021 .0040 .0072  
 .700 .0021 .0041  
 .800 .0018 .0035 .0048  
 .900 \*\*\*\*\* .0018

ALPHA ( 1 ) = -10.000 HAW/HT ( 2 ) = .900 RN/L = .37900 PO = 3992.5 TO = 2959.6 HO = .51000-01

## SECTION ( 1 ) WING

## DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

## X/C

.050 .0130  
 .100 .0097 .0164  
 .200 .0060 .0106 .0159  
 .300 .0040 .0074  
 .400 .0034 .0061 .0097  
 .500 .0025 .0049  
 .600 .0019 .0037 .0067  
 .700 .0020 .0038  
 .800 .0017 .0032 .0044  
 .900 \*\*\*\*\* .0017

REPRODUCIBILITY OF THE  
 ORIGINAL PAGE IS POOR

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

IH19 B22C7F5M4V7W111 T8 DPCATER LOWER WING

(RQEW04)

ALPHA ( 1 ) = -10.000 HAW/HT( 3 ) = 1.000 RN/L = .37900 PO = 3992.5 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0114		
.100	.0085	.0144	
.200	.0053	.0093	.0140
.300	.0035	.0065	
.400	.0030	.0054	.0085
.500	.0022	.0043	
.600	.0017	.0033	.0058
.700	.0017	.0034	
.800	.0015	.0028	.0039
.900	*****	.0015	

ALPHA ( 2 ) = -5.000 HAW/HT( 1 ) = .850 RN/L = .38000 PO = 4032.9 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0084		
.100	.0068	.0150	
.200	.0047	.0099	.0193
.300	.0032	.0066	
.400	.0026	.0051	.0103
.500	.0025	.0043	
.600	.0019	.0039	.0067
.700	.0018	.0035	
.800	.0014	.0023	.0048
.900	*****	.0016	

ALPHA ( 2 ) = -5.000 HAW/HT( 2 ) = .900 RN/L = .38000 PO = 4032.9 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0078		
.100	.0064	.0140	
.200	.0044	.0093	.0170
.300	.0030	.0062	
.400	.0024	.0048	.0095
.500	.0023	.0040	
.600	.0018	.0036	.0063
.700	.0017	.0033	
.800	.0013	.0021	.0045

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (1H19)

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1H19 B22C7F5M4V7W111 T8 ORBITER LOWER WING

(RDEW04)

ALPHA ( 2) = -5.000 HAW/HT( 2) = .900

SECTION ( 1) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.900 \*\*\*\*\* .0015

ALPHA ( 2) = -5.000 HAW/HT( 3) = 1.000 RN/L = .38000 PO = 4032.9 TO = 2969.6 HO = .51000-01

SECTION ( 1) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0069		
.100	.0056	.0123	
.200	.0039	.0081	.0149
.300	.0026	.0054	
.400	.0021	.0042	.0084
.500	.0020	.0035	
.600	.0016	.0031	.0055
.700	.0015	.0029	
.800	.0011	.0019	.0040
.900	*****	.0013	

ALPHA ( 3) = .000 HAW/HT( 1) = .850 RN/L = .36000 PO = 4013.6 TO = 3039.6 HO = .51000-01

SECTION ( 1) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0078		
.100	.0069	.0159	
.200	.0047	.0104	.0176
.300	.0031	.0068	
.400	.0032	.0056	.0110
.500	.0024	.0044	
.600	.0021	.0046	.0068
.700	.0020	.0032	
.800	.0018	.0028	.0051
.900	*****	.0017	

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TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 82207F5M4V7W111 T8 ORBITER LOWER WING

(RQEH04)

ALPHA ( 3 ) = .000 HAW/HT ( 2 ) = .900 RN/L = .36000 PO = 4013.6 TO = 3039.6 HO = .51000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0073		
.100	.0064	.0148	
.200	.0044	.0097	.0164
.300	.0029	.0063	
.400	.0030	.0053	.0103
.500	.0022	.0041	
.600	.0019	.0042	.0064
.700	.0019	.0030	
.800	.0017	.0026	.0048
.900	*****	.0016	

ALPHA ( 3 ) = .000 HAW/HT ( 3 ) = 1.000 RN/L = .36000 PO = 4013.6 TO = 3039.6 HO = .51000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0064		
.100	.0056	.0130	
.200	.0039	.0085	.0144
.300	.0026	.0056	
.400	.0026	.0046	.0090
.500	.0020	.0035	
.600	.0017	.0037	.0056
.700	.0016	.0026	
.800	.0015	.0023	.0042
.900	*****	.0014	

ALPHA ( 4 ) = 5.000 HAW/HT ( 1 ) = .850 RN/L = .37900 PO = 4020.6 TO = 2969.6 HO = .51000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0056		
.100	.0045	.0126	
.200	.0033	.0091	.0160
.300	.0021	.0059	
.400	.0020	.0052	.0111
.500	.0018	.0045	
.600	.0016	.0036	.0077
.700	.0014	.0032	
.800	.0014	.0035	.0054



DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (1H19)

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1H19 B22C7F5M4V7H111 T8 ORBITER LOWER WING

(RQEW04)

ALPHA ( 4 ) = 5.000 HAW/HT( 1 ) = .850

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.900 \*\*\*\*\* .0018

ALPHA ( 4 ) = 5.000 HAW/HT( 2 ) = .900 RN/L = .37900 PO = 4020.6 TO = 2969.6 HO = .51000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0052		
.100	.0042	.0117	
.200	.0031	.0084	.0149
.300	.0020	.0055	
.400	.0019	.0048	.0104
.500	.0017	.0042	
.600	.0014	.0033	.0071
.700	.0013	.0029	
.800	.0013	.0032	.0050
.900	*****	.0016	

ALPHA ( 4 ) = 5.000 HAW/HT( 3 ) = 1.000 RN/L = .37900 PO = 4020.6 TO = 2969.6 HO = .51000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0046		
.100	.0037	.0103	
.200	.0027	.0074	.0131
.300	.0017	.0048	
.400	.0016	.0042	.0091
.500	.0015	.0036	
.600	.0013	.0029	.0063
.700	.0011	.0026	
.800	.0011	.0028	.0044
.900	*****	.0014	

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 B22C7F5M4V7H111 T8 ORBITER LOWER WING

(RQEN04)

ALPHA ( 5 ) = 10.000 HAW/HT( 1 ) = .850 RN/L = .36900 PO = 3967.9 TO = 2989.6 HO = .51000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0019		
.100	.0014	.0133	
.200	.0014	.0101	.0164
.300	.0015	.0081	
.400	.0017	.0073	.0115
.500	.0018	.0062	
.600	.0015	.0055	.0086
.700	.0019	.0054	
.800	.0015	.0044	.0061
.900	*****	.0029	

ALPHA ( 5 ) = 10.000 HAW/HT( 2 ) = .900 RN/L = .36900 PO = 3967.9 TO = 2989.6 HO = .51000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0018		
.100	.0013	.0123	
.200	.0013	.0094	.0152
.300	.0014	.0075	
.400	.0016	.0068	.0107
.500	.0017	.0058	
.600	.0014	.0051	.0080
.700	.0018	.0050	
.800	.0014	.0041	.0057
.900	*****	.0027	

ALPHA ( 5 ) = 10.000 HAW/HT( 3 ) = 1.000 RN/L = .36900 PO = 3967.9 TO = 2989.6 HO = .51000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0016		
.100	.0011	.0108	
.200	.0012	.0083	.0133
.300	.0012	.0066	
.400	.0014	.0059	.0093
.500	.0015	.0051	
.600	.0012	.0045	.0070
.700	.0015	.0044	
.800	.0013	.0036	.0050

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 B22C7F5M4V7H111 TS ORBITER LOWER WING

(RQEN04)

ALPHA ( 5) = 10.000 HAW/HT( 3) = 1.000

SECTION ( 1) WING

DEPENDENT VARIABLE H/HREF

ZY/B .4000 .6000 .8000

X/C  
.900 \*\*\*\*\* .0023

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TABULATED SOURCE DATA - LACR N2-28 (IH15)

IH19 B22C7F5M4V7H111

ORBITER LOWER WING

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(ROEN05) ( 03 NOV 75 )

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000  
LREF = 1290.3000 IN. YMRP = .0000  
BREF = 1290.3000 IN. ZMRP = .0000  
SCALE = .0060

PARAMETRIC DATA

BETA = .000 RN/L = .500  
BLTRIP = .000 MACH = 19.800

ALPHA ( 1 ) = -10.000 HAW/HT ( 1 ) =

.850 RN/L = .39000 PO = 4008.3 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0051		
.100	.0034	.0153	
.200	.0027	.0085	.0099
.300	.0017	.0048	
.400	.0015	.0036	.0058
.500	.0018	.0016	
.600	.0014	.0021	.0036
.700	.0011	.0022	
.800	.0012	.0016	.0031
.900	*****	.0011	

ALPHA ( 1 ) = -10.000 HAW/HT ( 2 ) =

.900 RN/L = .39000 PO = 4008.3 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0048		
.100	.0031	.0147	
.200	.0025	.0079	.0091
.300	.0016	.0045	
.400	.0014	.0034	.0054
.500	.0017	.0015	
.600	.0013	.0020	.0033
.700	.0010	.0020	
.800	.0012	.0015	.0029
.900	*****	.0010	

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TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 B22C7F5M4V7W111

ORBITER LOWER WING

(RQEW05)

ALPHA ( 1 ) = -10.000 HAW/HT( 3 ) = 1.000 RN/L = .38000 PO = 4008.3 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0042		
.100	.0028	.0129	
.200	.0022	.0069	.0080
.300	.0014	.0039	
.400	.0013	.0030	.0047
.500	.0015	.0013	
.600	.0012	.0017	.0029
.700	.0009	.0018	
.800	.0010	.0013	.0026
.900	*****	.0009	

ALPHA ( 2 ) = -5.000 HAW/HT( 1 ) = .850 RN/L = .38000 PO = 4004.8 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0061		
.100	.0046	.0174	
.200	.0037	.0094	.0131
.300	.0026	.0060	
.400	.0026	.0050	.0087
.500	.0020	.0028	
.600	.0022	.0032	.0053
.700	.0017	.0030	
.800	.0012	.0027	.0037
.900	*****	.0015	

ALPHA ( 2 ) = -5.000 HAW/HT( 2 ) = .900 RN/L = .38000 PO = 4004.8 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0057		
.100	.0043	.0162	
.200	.0035	.0087	.0122
.300	.0024	.0055	
.400	.0024	.0047	.0081
.500	.0019	.0026	
.600	.0021	.0030	.0050
.700	.0016	.0028	
.800	.0012	.0025	.0034

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 B22C7F5M4V7H111

ORBITER LOWER WING

(RQEH05)

ALPHA ( 2 ) = -5.000 HAW/HT( 2 ) = .900

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.900 \*\*\*\*\* .0014

ALPHA ( 2 ) = -5.000 HAW/HT( 3 ) = 1.000 RN/L = .38000 PO = 4004.8 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0050		
.100	.0038	.0142	
.200	.0031	.0076	.0107
.300	.0021	.0049	
.400	.0021	.0041	.0071
.500	.0016	.0023	
.600	.0018	.0026	.0044
.700	.0014	.0024	
.800	.0010	.0022	.0030
.900	*****	.0012	

ALPHA ( 3 ) = .000 HAW/HT( 1 ) = .850 RN/L = .35900 PO = 3992.0 TO = 3039.6 HO = .50000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0131		
.100	.0111	.0207	
.200	.0068	.0128	.0168
.300	.0050	.0085	
.400	.0045	.0075	.0100
.500	.0041	.0020	
.600	.0029	.0052	.0068
.700	.0029	.0045	
.800	.0028	.0037	.0052
.900	*****	.0025	

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TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 822C7F5M4V7H111

ORBITER LOWER WING

(RQEW05)

ALPHA ( 3) = .000 HAW/HT( 2) = .900 RN/L = .35800 PO = 3982.0 TO = 3039.6 HO = .50000-01

SECTION ( 1) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0122		
.100	.0103	.0193	
.200	.0053	.0119	.0156
.300	.0045	.0079	
.400	.0041	.0070	.0093
.500	.0038	.0018	
.600	.0027	.0048	.0064
.700	.0027	.0042	
.800	.0026	.0034	.0049
.900	*****	.0023	

ALPHA ( 3) = .000 HAW/HT( 3) = 1.000 RN/L = .35800 PO = 3982.0 TO = 3039.6 HO = .50000-01

SECTION ( 1) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0107		
.100	.0091	.0170	
.200	.0056	.0104	.0137
.300	.0041	.0059	
.400	.0036	.0061	.0082
.500	.0033	.0016	
.600	.0024	.0042	.0056
.700	.0023	.0037	
.800	.0023	.0030	.0043
.900	*****	.0020	

ALPHA ( 4) = 5.000 HAW/HT( 1) = .850 RN/L = .36400 PO = 3975.0 TO = 3009.6 HO = .51000-01

SECTION ( 1) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0237		
.100	.0125	.0201	
.200	.0122	.0151	.0206
.300	.0084	.0104	
.400	.0070	.0091	.0139
.500	.0052	.0039	
.600	.0058	.0054	.0093
.700	.0054	.0058	
.800	.0046	.0045	.0071

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 B22C7F5H+V7H111

ORBITER LOWER WING

(RQEN05)

ALPHA ( 4 ) = 5.000 HAW/HT( 1 ) = .850

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.900 \*\*\*\*\* .0026

ALPHA ( 4 ) = 5.000 HAW/HT( 2 ) = .900 RN/L = .36400 PO = 3975.0 TO = 3009.6 HO = .51000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0221		
.100	.0181	.0187	
.200	.0113	.0140	.0192
.300	.0078	.0097	
.400	.0065	.0084	.0129
.500	.0057	.0035	
.600	.0054	.0060	.0086
.700	.0050	.0054	
.800	.0043	.0042	.0065
.900	*****	.0024	

ALPHA ( 4 ) = 5.000 HAW/HT( 3 ) = 1.000 RN/L = .36400 PO = 3975.0 TO = 3009.6 HO = .51000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0194		
.100	.0159	.0164	
.200	.0099	.0123	.0168
.300	.0068	.0085	
.400	.0057	.0074	.0113
.500	.0050	.0032	
.600	.0048	.0053	.0075
.700	.0044	.0047	
.800	.0038	.0037	.0056
.900	*****	.0021	



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TABULATED SOURCE DATA - LACR N2-28 (1H19)

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1H19 B22C7F5M4V7H111

ORBITER LOWER HING

(ROEH05)

ALPHA ( 5 ) = 10.000 HAW/HT( 1 ) = .850 RN/L = .38100 PO = 4011.8 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) HING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0426		
.100	.0354	.0279	
.200	.0229	.0225	.0291
.300	.0166	.0176	
.400	.0154	.0157	.0200
.500	.0145	.0066	
.600	.0121	.0120	.0144
.700	.0114	.0111	
.800	.0100	.0079	.0109
.900	*****	.0048	

ALPHA ( 5 ) = 10.000 HAW/HT( 2 ) = .900 RN/L = .38100 PO = 4011.8 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) HING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0397		
.100	.0329	.0260	
.200	.0213	.0209	.0271
.300	.0154	.0163	
.400	.0143	.0146	.0186
.500	.0135	.0061	
.600	.0112	.0111	.0134
.700	.0107	.0103	
.800	.0093	.0073	.0102
.900	*****	.0045	

ALPHA ( 5 ) = 10.000 HAW/HT( 3 ) = 1.000 RN/L = .38100 PO = 4011.8 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) HING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0348		
.100	.0289	.0228	
.200	.0187	.0184	.0238
.300	.0135	.0143	
.400	.0126	.0128	.0163
.500	.0118	.0054	
.600	.0099	.0098	.0118
.700	.0093	.0090	
.800	.0082	.0064	.0089

DATE 03 NOV 75

TABULATED SOURCE DATA - LAGR N2-28 (IH19)

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IH19 B22C7F5M4V7H111

ORBITER LOWER WING

(RQEW05)

ALPHA ( 5) = 10.000 HAW/HT: 3) = 1.000

SECTION ( 1) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.900 \*\*\*\*\* .0039

DATE 03 NOV 75

TABULATED SOURCE DATA - LAQR N2-28 (IH19)

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IH19 B22C7F5M4V7W111

ORBITER LOWER WING

(RQEW06) ( 03 NOV 75 )

## REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000  
 LREF = 1290.3000 IN. YMRP = .0000  
 BREF = 1290.3000 IN. ZMRP = .0000  
 SCALE = .0050

## PARAMETRIC DATA

BETA = .000 RN/L = .500  
 BLTRIP = .000 MACH = 19.800

ALPHA ( 1 ) = -10.000 HAW/HT ( 1 ) = .850 RN/L = .36500 PO = 4010.1 TO = 3019.6 HO = .51000-01

## SECTION ( 1 ) WING

## DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

## X/C

.050	.0036		
.100	.0027	.0138	
.200	.0021	.0074	.0091
.300	.0020	.0049	
.400	.0016	.0037	.0056
.500	.0013	.0020	
.600	.0012	.0025	.0036
.700	.0014	.0022	
.800	.0011	.0014	.0034
.900	.0014	.0004	

ALPHA ( 1 ) = -10.000 HAW/HT ( 2 ) = .900 RN/L = .36500 PO = 4010.1 TO = 3019.6 HO = .51000-01

## SECTION ( 1 ) WING

## DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

## X/C

.050	.0033		
.100	.0026	.0129	
.200	.0019	.0058	.0085
.300	.0019	.0045	
.400	.0015	.0035	.0052
.500	.0012	.0018	
.600	.0011	.0023	.0033
.700	.0013	.0021	
.800	.0010	.0013	.0032
.900	.0012	.0004	

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TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 B22C7F5MWV7W111 ORBITER LOWER WING

(RQEN06)

ALPHA ( 1 ) = -10.000 HAW/HT( 3 ) = 1.000 RN/L = .36500 PO = 4010.1 TO = 3019.6 HO = .51000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0029		
.100	.0022	.0113	
.200	.0017	.0060	.0074
.300	.0016	.0040	
.400	.0013	.0030	.0045
.500	.0010	.0016	
.600	.0009	.0020	.0029
.700	.0011	.0018	
.800	.0009	.0011	.0028
.900	.0010	.0003	

ALPHA ( 2 ) = -5.000 HAW/HT( 1 ) = .850 RN/L = .36400 PO = 3999.5 TO = 3019.6 HO = .51000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0056		
.100	.0043	.0173	
.200	.0035	.0036	.0135
.300	.0024	.0061	
.400	.0021	.0052	.0087
.500	.0016	.0036	
.600	.0018	.0033	.0055
.700	.0021	.0031	
.800	.0014	.0022	.0039
.900	*****	.0008	

ALPHA ( 2 ) = -5.000 HAW/HT( 2 ) = .900 RN/L = .36400 PO = 3999.5 TO = 3019.6 HO = .51000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0053		
.100	.0040	.0161	
.200	.0032	.0089	.0126
.300	.0022	.0057	
.400	.0020	.0049	.0081
.500	.0015	.0036	
.600	.0017	.0031	.0051
.700	.0019	.0029	
.800	.0013	.0021	.0037

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TABULATED SOURCE DATA - LACR N2-28 (IH19)

IH19 622C7F5M4V7W111

ORBITER LOWER WING

(ROEND6)

ALPHA ( 2 ) = -5.000 HAW/HT( 2 ) = .900

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.900 \*\*\*\*\* .0008

ALPHA ( 2 ) = -5.000 HAW/HT( 3 ) = 1.000 RN/L = .36400 PO = 3999.5 TO = 3019.5 HO = .51050-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0046		
.100	.0035	.0141	
.200	.0028	.0078	.0110
.300	.0019	.0050	
.400	.0017	.0043	.0071
.500	.0013	.0031	
.600	.0015	.0027	.0045
.700	.0017	.0025	
.800	.0012	.0018	.0032
.900	*****	.0007	

ALPHA ( 3 ) = .000 HAW/HT( 1 ) = .850 RN/L = .35600 PO = 3966.2 TO = 3039.6 HO = .50000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0109		
.100	.0095	.0191	
.200	.0067	.0119	.0161
.300	.0045	.0083	
.400	.0039	.0067	.0097
.500	.0035	.0062	
.600	.0030	.0053	.0066
.700	.0025	.0040	
.800	.0023	.0036	.0048
.900	*****	.0020	

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TABULATED SOURCE DATA - LACR N2-2B (IH19)

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IH19 B22C7F544V7H111

ORBITER LOWER WING

(RQEN08)

ALPHA ( 3 ) = .000 HAW/HT( 2 ) = .900 RN/L = .35600 PO = 3966.2 TO = 3039.6 HQ = .50000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0102		
.100	.0089	.0177	
.200	.0053	.0110	.0150
.300	.0042	.0077	
.400	.0036	.0063	.0090
.500	.0032	.0057	
.600	.0028	.0050	.0061
.700	.0023	.0038	
.800	.0021	.0033	.0044
.900	*****	.0019	

ALPHA ( 3 ) = .000 HAW/HT( 3 ) = 1.000 RN/L = .35600 PO = 3966.2 TO = 3039.6 HQ = .50000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/L .4000 .6000 .8000

X/C

.050	.0090		
.100	.0078	.0156	
.200	.0055	.0097	.0132
.300	.0037	.0068	
.400	.0032	.0055	.0079
.500	.0028	.0050	
.600	.0024	.0044	.0054
.700	.0021	.0033	
.800	.0019	.0029	.0039
.900	*****	.0016	

ALPHA ( 4 ) = 5.000 HAW/HT( 1 ) = .850 RN/L = .39500 PO = 4018.8 TO = 2909.6 HQ = .52000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0229		
.100	.0189	.0203	
.200	.0127	.0149	.0208
.300	.0089	.0109	
.400	.0071	.0090	.0144
.500	.0066	.0069	
.600	.0058	.0068	.0099
.700	.0057	.0059	
.800	.0052	.0047	.0072

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TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 B22C7F5M4V7H111

ORBITER LOWER WING

(RCEN06)

ALPHA ( 4 ) = 5.000 HAH/HT( 1 ) = .850

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.900 ..... .0030

ALPHA ( 4 ) = 5.000 HAH/HT( 2 ) = .900

RN/L = .39500 PO = 4018.8 TO = 2909.6 HO = .52000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0213		
.100	.0175	.0189	
.200	.0118	.0138	.0193
.300	.0083	.0102	
.400	.0066	.0084	.0134
.500	.0051	.0064	
.600	.0055	.0063	.0092
.700	.0053	.0055	
.800	.0048	.0044	.0067
.900	.....	.0028	

ALPHA ( 4 ) = 5.000 HAH/HT( 3 ) = 1.000

RN/L = .39500 PO = 4018.8 TO = 2909.6 HO = .52000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0187		
.100	.0154	.0165	
.200	.0103	.0121	.0169
.300	.0072	.0089	
.400	.0058	.0074	.0117
.500	.0054	.0056	
.600	.0048	.0055	.0080
.700	.0048	.0048	
.800	.0042	.0039	.0059
.900	.....	.0025	

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 B22C7F5M4V7H111

ORBITER LOWER WING

(ROEH06)

ALPHA ( 5) = 10.000 HAW/HT( 1) = .850 RN/L = .38000 PO = 4006.5 TO = 2959.6 HO = .51000-01

SECTION ( 1) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0384		
.100	.0327	.0271	
.200	.0226	.0219	.0282
.300	.0166	.0169	
.400	.0146	.0150	.0189
.500	.0138	.0112	
.600	.0118	.0112	.0191
.700	.0110	.0104	
.800	.0097	.0092	.0110
.900	*****	.0049	

ALPHA ( 5) = 10.000 HAW/HT( 2) = .900 RN/L = .38000 PO = 4006.5 TO = 2959.6 HO = .51000-01

SECTION ( 1) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0358		
.100	.0304	.0252	
.200	.0217	.0204	.0262
.300	.0154	.0157	
.400	.0136	.0139	.0176
.500	.0128	.0105	
.600	.0110	.0104	.0131
.700	.0103	.0097	
.800	.0090	.0076	.0103
.900	*****	.0046	

ALPHA ( 5) = 10.000 HAW/HT( 3) = 1.000 RN/L = .38000 PO = 4006.5 TO = 2959.6 HO = .51000-01

SECTION ( 1) WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.050	.0314		
.100	.0267	.0221	
.200	.0184	.0179	.0230
.300	.0135	.0138	
.400	.0119	.0122	.0154
.500	.0112	.0092	
.600	.0097	.0091	.0115
.700	.0090	.0085	
.800	.0079	.0067	.0090



DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

PAGE 108

IH19 B22C7F5M4V7H111

ORBITER LOWER WING

(RQEW06)

ALPHA ( 5) = 10.000 HAM/HT( 3) = 1.000

SECTION ( 1)WING

DEPENDENT VARIABLE H/HREF

2Y/B .4000 .6000 .8000

X/C

.900 \*\*\*\*\* .0040

TABULATED SOURCE DATA - LACR N2-29 (11/19)

1H19 B22C7F5M4V7W111 TB EXTERNAL TANK

(RQET01) ( 03 NOV 75 )

### REFERENCE DATA

```

SREF = 2690.0000 SQ.FT.  XMRP = .0000
LREF = 1290.3000 IN.      YMRP = .0000
BREF = 1290.3000 IN.      ZMRP = .0000
SCALE = .0060

```

### PARAMETRIC DATA

BETA	=	.000	RN/L	=	.500
BLTRIP	=	.030	DELTAH	=	.175
MACH	=	19.800			

ALPHA ( 1 ) = -10.000    HAW/HT( 1 ) = .850    RN/L = .38200    PO = 4029.4    TO = 2959.6    HQ = .51000-01

SECTION ( 1 ) TANK

## DEPENDENT VARIABLE N/HREF

PHI .0000 45.0000 67.5000 90.0000 112.5000 135.0000 157.5000 180.0000

X/L

[illegible]

PAGE 110

(RQETO1)

DEPENDENT VARIABLE H/HREF

X/L

[illegible]

PAGE 111

(RDET01)

DEPENDENT VARIABLE H/HREF

X/L

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-2B (1H19)

PAGE 112

1H19 02207F5M4V7W111 T8 EXTERNAL TANK

(RQETO1)

ALPHA ( 2 ) = -5.000    HAW/HT( 1 ) = .850    RN/L = .39100    PO = 4031.1    TO = 2929.6    HO = .51000-01

SECTION ( 1 ) TANK

DEPENDENT VARIABLE H/HREF"

PHI .0000 45.0000 67.5000 90.0000 112.5000 135.0000 157.5000 180.0000

X/L

[illegible]

PAGE 11Z

(RQETO1)

SECTION ( 1 ) TANK

DEPENDENT VARIABLE H/HREF

X/L

[illegible]

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (1H19)

1H19 B22C7F5M4V7W111 TS EXTERNAL TANK

(RQETD1)

THIS B22C/F3544V/AT11 IS EXTENDED FROM

ALPHA ( 2 ) =	-5.000	HAW/HT ( 3 ) =	1.000	RN/L =	.39100	PO =	4031.1	TO =	2929.6	HO =	.51000-01
---------------	--------	----------------	-------	--------	--------	------	--------	------	--------	------	-----------

SECTION ( 1 ) TANK

DEPENDENT VARIABLE H/HREF

PHI .0000 45.0000 67.5000 90.0000 112.5000 135.0000 157.5000 180.0000

[illegible]

PAGE 115

(RQETO1)

SECTION ( I ) TANK                      DEPENDENT VARIABLE H/HREF

[illegible]



DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

PAGE 116

1H19 822C7F5M4V7H111 TB EXTERNAL TANK

(RQET01)

ALPHA ( 3 ) = .000 HAW/HT ( 2 ) = .900 RN/L = .39100 PO = 3978.5 TO = 2809.6 HO = .51000-01

SECTION ( 1 ) TANK

DEPENDENT VARIABLE H/HREF

PHI .0001 45.0000 67.5000 90.0000 112.5000 135.0000 157.5000 180.0000

X/L								
.000			.1773					.1773
.005								.1173
.010								.0935
.020								.0500
.040								.0505
.060								.0376
.080								*****
.100								.0208
.125								.0002
.150								.0091
.175								.0073
.200			.0055					.0054
.250								*****
.300		.0028	.0001	.0028				.0029
.325					.0025			.0026
.350					.0022			.0125
.375					.0018			.0196
.400	.0026	.0023	.0022	.0025	.0021	.0015	.0071	.0139
.425						.0029	.0117	.0084
.450								*****
.475			.0018	.0015	.0018	.0054	.0089	.0054
.500						.0059	.0060	.0057
.525								.0045
.550								.0035
.575								.0031
.600	.0020		.0013	.0012	.0028	.0052	.0033	.0020
.625								.0013
.650			.0009			.0033	.0002	.0010
.675								.0006
.700			.0008	.0013	.0027	.0027	.0012	.0003
.750			.0013			.0018	.0003	.0003
.800	.0014	.0011	.0016	.0013	.0017	.0011	.0002	*****
.850						.0008	.0002	*****
.900			.0017	.0008	.0012	.0002	*****	.0000
.935								*****
.974								.0002

REPRODUCIBILITY OF THIS  
ORIGINAL PAGE IS POOR

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (1K19)

PAGE 117

1H19 B22C7F5M4V7W111 TB EXTERNAL TANK

(R0EY01)

ALPHA ( 3 ) = .000 HAW/HT ( 3 ) = 1.000 RN/L = .39100 PO = 3978.5 TO = 2809.6 HO = .51000-01

SECTION ( 1 ) TANK

DEPENDENT VARIABLE H/HREF

PHI .0000 45.0000 67.5000 90.0000 112.5000 135.0000 157.5000 180.0000

X/L

[illegible]

DATE 03 NOV 75

TABULATED SOURCE DATA - LACB N2-28 (1819)

PAGE 118

1H19 B22C7F5M4V7H111 T8 EXTERNAL TANK

(RQETO1)

ALPHA ( 4 ) = 5.000 HAW/HT( 1 ) = .850 RN/L = .39500 PD = 4017.1 TD = 2509.6 HD = .52000-01

### SECTION ( 1 ) TANK

DEPENDENT VARIABLE H/HREF

PHI	.0000	45.0000	67.5000	90.0000	112.5000	135.0000	157.5000	180.0000
-----	-------	---------	---------	---------	----------	----------	----------	----------

X/L

[illegible]

1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 26

(RQET01)

ALPHA ( 4 ) = 5.000

DEPENDENT VARIABLE H/HREF

**PHI**

X/L

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-63 (11419)

PAGE 120

1H19 622C7F5M4V7W111 T8 EXTERNAL TANK

(RQETO1)

ALPHA ( 4 ) = 5.000 HAW/HT( 3 ) = 1.000 RN/L = .39500 PO = 4017.1 TO = 2909.6 HO = .52000-01

SECTION ( 1 ) TANK

DEPENDENT VARIABLE H/HREF

FBI .0000 45.0000 67.5000 90.0000112.5000135.0000157.5000180.0000

X/L

[illegible]

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (JH19)

PAGE 121

1H19 822C7F5M4V7W111 T8 EXTERNAL TANK

(RQET02) ( 03 NOV 75 )

### REFERENCE DATA

```

SREF = 2690.0000 SQ.FT.  XMRP = .0000
LREF = 1290.3000 IN.      YMRP = .0000
OREF = 1290.3000 IN.      ZMRP = .0000
SCALE = .0060

```

### PARAMETRIC DATA

BETA	=	.000	RN/L	=	.500
BLTRIP	=	.000	DELTAH	=	.175
MACH	=	19.800			

ALPHA ( 1 ) = -10.000    HAW/HT( 1 ) = .850    RN/L = .38500    PO = 3999.5    TO = 2939.6    HO = .51000-01

SECTION ( )TANK DEPENDENT VARIABLE H/HREF

PHI	.0000	45.0000	67.5000	90.0000	112.5000	135.0000	157.5000	180.0000
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[illegible]

PAGE 122

(RQET02)

DEPENDENT VARIABLE H/HREF

X/L

[illegible]

TABULATED SOURCE DATA - LACR N2-2B (1419)

1419 82207F5M4V7W111 TB EXTERNAL TANK

(RQET02)

SECTION ( 1 ) TANK

DEPENDENT VARIABLE H/HREF

PHI .0000 45.0000 67.5000 90.0000 112.5000 135.0000 157.5000 180.0000

X/L

.000  
.005  
.010  
.020  
.040  
.060  
.080  
.100  
.125  
.150  
.175  
.200  
.250  
.300  
.325  
.350  
.375  
.400  
.425  
.450  
.475  
.500  
.525  
.550  
.575  
.600  
.625  
.650  
.675  
.700  
.750  
.800  
.850  
.900  
.935  
.974

.1703

.1703  
.1361  
.1192  
.0818  
.0696  
.0536  
\*\*\*\*\*  
.0329  
.0001  
.0163  
.0128  
.0107  
\*\*\*\*\*  
.0061  
  
.0051  
.0213  
.0398  
.0247  
.0149  
.0029  
.0126  
.0116  
.0100  
.0103  
.0094  
.0092  
.0081  
.0068  
.0062  
.0045  
.0027  
.0016  
.0006  
.0003  
.0001



PAGE 124

(RQET02)

SECTION ( 1 ) TANK

DEPENDENT VARIABLE H/HREF

XFL

[illegible]

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (1H19)

(RDET02)

JH19 B22C7F5M4V7W111 TB EXTERNAL TANK

ALPHA ( 2 ) = -5.000 HAW/HT ( 2 ) = .900 RN/L = .39000 PO = 3994.3 TO = 2919.6 RO = .31000

SECTION (1) TANK

DEPENDENT VARIABLE H/HREF

PHI .0000 45.0000 67.5000 90.0000 112.5000 135.0000 157.5000 180.0000

[illegible]

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (1H19)

(AQET02)

1H19 022C7F5M4V7W111 T8 EXTERNAL TANK (RQET02)

ALPHA ( 2 ) = -5.000 HAW/HT( 3 ) = 1.000 RN/L = .39000 PO = 3994.3 TO = 2919.6 HO = .51000-01

SECTION ( 1 ) TANK

DEPENDENT VARIABLE H/HREF

PK1 .0000 45.0000 67.5000 90.0000 112.5000 135.0000 157.5000 180.0000

[illegible]

PAGE 127

(RQET02)

FBI .0000 45.0000 67.5000 90.0000 112.5000 135.0000 157.5000 180.0000

[illegible]

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (1H19)

PAGE 12B

1H19 B22C7F5M4V7W111 TB EXTERNAL TANK

(RQET02)

ALPHA ( 3 ) = .000 HAW/HT ( 2 ) = .900 RN/L = .39300 PO = 3996.0 TC = 2909.6 HO = .51000-01

SECTION ( 1 ) TANK

DEPENDENT VARIABLE H/HREF

PHI	.0000	45.0000	67.5000	90.0000	112.5000	135.0000	157.5000	180.0000
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X/L

[illegible]

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

PAGE 129

(RQET02)

PHI .0000 45.0000 67.5000 90.0000 112.5000 135.0000 157.5000 180.0000

[illegible]

PAGE 130

(RQET02)

DEPENDENT VARIABLE H/HREF

X/L

0.00					.1550					.1550	
.005										.1014	
.010										.0808	
.020										.0500	
.040										.0414	
.060										.0315	
.080										*****	
.100										.0148	
.125										.0000	
.150										.0067	
.175										.0047	
.200					.0050					.0036	
.250										*****	
.300					.0036*****	.0026					.0020
.325										.0021	
.350										*****	
.375										*****	
.400	.0040	.0037	.0030	.0024	.0023	.0015	.0056			.0111	
.425										.0067	
.450										.0022	
.475										.0069	
.500										*****	
.525					.0027	.0024	.0017	.0034	.0053	.0034	
.550										.0028	
.575										.0038	
.600	.0037			.0034	.0013	.0012	.0045	.0013	.0007		
.625										*****	
.650					.0024					.0022	
.675										.0005	
.700										.0002	
.750					.0021	.0011	.0016	.0014	*****		
.800	.0032	.0027	.0014	.0012	.0010					.0011	
.850										.0000	
.900					.0020	.0014	.0010	.0010	*****		
.935										.0009	
.974										.0002	
										*****	
										.0001	
										.0000	

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (1H19)

PAGE 131

1H19 B22C7F5M4V7W1111 TB EXTERNAL TANK

(RQET02)

ALPHA ( 4 ) = 5.000 HAW/HT( 2 ) = .900 RN/L = .39000 PO = 4001.3 TO = 2919.6 HO = .51000-01

SECTION ( 1 ) TANK

DEPENDENT VARIABLE H/HREF

PHI	.0000	45.0000	67.5000	90.0000	112.5000	135.0000	157.5000	180.0000
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X/L

[illegible]



TABULATED SOURCE DATA - LACR N2-28 (1H19)

(RQET02)

1H19 022C7F5M4Y7H111 TB EXTERNAL TANK

ALPHA ( 4 ) = 5.000 HAW/HT( 3 ) = 1.000 RN/L = .39000 PO = 4001.3 TO = 2919.6 NO = .51000-01

SECTION ( 1 ) TANK

DEPENDENT VARIABLE H/HREF

PHI .0000 45.0000 67.5000 90.0000 112.5000 135.0000 157.5000 180.0000

[illegible]



PAGE 134

(RQET02)

DEPENDENT VARIABLE H/HREF

X/L

[illegible]

DATE 03 NOV 75

TABULATED SOURCE DATA - LACB NE-28 (IH19)

PAGE 135

1H19 B22C7F5M4V7W1111 TB EXTERNAL TANK

(R0ET02)

ALPHA ( 5 ) = 10.000    HAW/HT ( 3 ) = 1.000    RN/L = .35700    PO = 3999.5    TO = 3009.6    HO = .51000-01

SECTION ( 1 ) TANK

DEPENDENT VARIABLE H/HREF

**PHI .0000 45.0000 67.5000 90.0000 112.5000 135.0000 157.5000 180.0000**

X/L

[illegible]

TABULATED SOURCE DATA - LACR N2-28 (1H19)

(RQET07) ( 03 NOV 75 )

## EXTERNAL TANK

### PARAMETRIC DATA

BETA	=	.000	RN/L	=	.500
BLTRIP	=	.000	MACH	=	19.800

ALPHA ( 1 ) = -10.000 HAW/HT( 1 ) = .850 RN/L = .38900 PO = 3990.8 TO = 2919.6 HO = .51000-01

SECTION ( 1 ) TANK

DEPENDENT VARIABLE H/HREF

PHI .0000 45.0000 67.5000 90.0000 112.5000 135.0000 157.5000 180.0000

X/L

[illegible]

PAGE 137

(RQET07)

DEPENDENT VARIABLE H/HREF

X/L

.1484

```

.1484
.0088
.1117
.0764
.0647
.0500
.0394
.0305
.0205
.0178
.0136
.0103
*****
.0060
.0059
.0060
.0058
.0003
*****
.0056
.0011
.0047
.0038
.0044
.0046
*****
.0056
.0061
.0069
.0068
.0066
.0048
.0009

```

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

PAGE 138

(RQET07)

DEPENDENT VARIABLE H/HREF

X/L

[illegible]

TABULATED SOURCE DATA - LACR N2-28 (1H19)

1419 TB

## EXTERNAL TANK

(RQET07)

ALPHA ( 2 ) = -5.000 HAW/HT( 1 ) = .850 RN/L = .37900 PO = 3997.8 TO = 2959.6 HO = .51000-01

SECTION ( )TANK DEPENDENT VARIABLE H/HREF

PHI .0000 45.0000 67.5000 90.0000 112.5000 135.0000 157.5000 180.0000

**X/L**

.000							.1424
.005			.1424				.0896
.010							.0965
.020							.0655
.040							.0550
.060							.0417
.080							.0322
.100							.0240
.125							.0162
.150							.0124
.175							.0099
.200			.0049				.0075
.250							*****
.300		.0024	.0020*	*	*	*	*****
.325						.0036	
.350						.0013	.0038
.375					* * *	.	.0047
.400	.0020*	.0009	.0021	.0022	.0014	.0034	.0031
.425							.0032
.450					.0021	.0022*	*****
.475						.	*****
.500		.0017	.0006*	*	*	.0014	.0012*
.525							*****
.550					.0013	.0013	.0019
.575							.0005
.600	.0005	.0011*	*	*	.0025	.0032	.0022
.625						.0028	.0034
.650		.0013					.0035
.675					.0025*	*	.0032
.700		.0011	.0015	.0021	.0023*	*	*****
.750		.0011			.0022	.0027	.0029
.800	.0006	.0006	.0013	.0018	.0021	.0027	.0024
.850						.0027	.0026
.900		.0013	.0019	.0020	.0020	.0026	.0028
.935							.0020
.974							*****



PAGE 140

(RQET07)

PHI .0000 45.0000 67.5000 90.0000 112.5000 135.0000 157.5000 180.0000

[illegible]

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

PAGE 141

IH19 TB

EXTERNAL TANK

(RQET07)

ALPHA ( 2 ) = -5.000 HAW/HT( 3 ) = 1.000 RN/L = .37900 PO = 3997.8 TO = 2959.6 H0 = .51000-01

SECTION ( 1 ) TANK

DEPENDENT VARIABLE H/HREF

PHI .0000 45.0000 67.5000 90.0000 112.5000 135.0000 157.5000 180.0000

X/L

.000			.1153			.1153
.005						.0728
.010						.0783
.020						.0533
.040						.0448
.060						.0340
.080						.0262
.100						.0195
.125						.0132
.150						.0101
.175						.0080
.200			.0040			.0062
.250						*****
.300		.0020	.0015*****			*****
.325				.0029		.0031
.350				.0010		.0039
.375				*****		.0026
.400	.0016*****	.0007	.0017	.0018	.0011	.0028
.425					.0017	.0026
.450						.0018*****
.475						*****
.500		.0014	.0005*****		.0011	.0010*****
.525						.0016
.550					.0010	.0011
.575						.0018
.600	.0004	.0009*****	.0021	.0026	.0023	.0028
.625		.0011		.0020*****		.0026
.650						*****
.675		.0009	.0012	.0017	.0019*****	.0024
.700		.0009			.0018	.0022
.750					.0022	.0020
.800	.0005	.0005	.0010	.0014	.0017	.0022
.850					.0022	.0021
.900			.0010	.0016	.0017	.0022
.935						.0016
.974						*****

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[illegible]

TABULATED SOURCE DATA - LACR N2-28 (1H19)

1H19 TB

## EXTERNAL TANK

(RGET07)

ALPHA ( 3 ) = .000 HAW/HT ( 2 ) = .900 RN/L = .39500 PO = 4015.3 TO = 2909.6 HO = .52000-01

SECTION ( 1 ) TANK

DEPENDENT VARIABLE H/HREF

PHI .0000 45.0000 67.5000 90.0000 112.5000 135.0000 157.5000 180.0000

X/L

[illegible]

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (1H19)

1419 TB

EXTERNAL TANK

(RQET07)

ALPHA ( 3 ) = .000 HAW/HT( 3 ) = 1.000 RN/L = .39500 PO = 4015.3 TO = 2909.6 HO = .52000-01

SECTION ( 1 ) TANK

DEPENDENT VARIABLE H/HREF

PHI .0000 45.0000 67.5000 90.0000 112.5000 135.0000 157.5000 180.0000

X/L

[illegible]

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-2B (IH19)

PAGE 14

1419 TB

## EXTERNAL TANK

(RQET07)

ALPHA ( 4 ) = 5.000 HAW/HT( 1 ) = .850 RN/L = .39400 PO = 4010.1 TO = 2909.5 HO = .51000-01

SECTION ( 1 ) TANK

DEPENDENT VARIABLE H/HREF

PHI	.0000	45.0000	67.5000	90.0000	112.5000	135.0000	157.5000	180.0000
-----	-------	---------	---------	---------	----------	----------	----------	----------

X/L

[illegible]

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (1H19)

1419 78

## EXTERNAL TANK

(RQET07)

[illegible]

SECTION ( 1 ) TANV

DEPENDENT VARIABLE H/HREF

PHI .0000 45.0000 67.5000 90.0000 112.5000 135.0000 157.5000 180.0000

X/L

[illegible]

REPRODUCIBILITY OF THIS  
ORIGINAL PAGE IS POOR





DATE 03 NOV 74

TABULATED SOURCE DATA - LACR N2-28 (1119)

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1419 TO

EXTERNAL TANK

(RQE:07)

ALPHA ( 5 ) = 10.000 HAW/HT( 1 ) = .850 RN/L = .37900 PO = 3994.3 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) TANK

DEPENDENT VARIABLE H/HREF

PHI .0000 45.0000 67.5000 90.0000 112.5000 135.0000 157.5000 180.0000

X/L

[illegible]

PAGE 149

(RDET07)

DEPENDENT VARIABLE H/HREF

X/L

[illegible]

PAGE 150

(RQET07)

DEPENDENT VARIABLE H/HREF

X/L

[illegible]

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(ROETOB) ( 03 NOV 75 )

### PARAMETRIC DATA

BETA	=	.000	RN/L	=	.500
BLTRIP	=	.030	MACH	=	19.800

DEPENDENT VARIABLE H/HREF

X/L

[illegible]

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

TABULATED SOURCE DATA - LACR N2-28 (1H19)

1419 TB

## EXTERNAL TANK

(RQET08)

ALPHA ( 1) = -10.000    HAW/HT( 2) = .900    RN/L = .37100    PO = 4050.4    TO = 3009.6    HO = .51000-01

SECTION ( 1 ) TANK

DEPENDENT VARIABLE H/HREF

PHI .0000 43.0000 67.5000 90.0000 112.5000 135.0000 157.5000 180.0000

[illegible]

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PHI .0000 45.0000 67.5000 90.0000 112.5000 135.0000 157.5000 180.0000

[illegible]

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(RQET08)

DEPENDENT VARIABLE H/HREF

X/L

[illegible]

TABULATED SOURCE DATA - LACR N2-28 (1H19)

IH19 T8

## EXTERNAL TANK

(RQETQB)

ALPHA ( 2 ) = -5.000    HAW/HT( 2 ) = .900    RN/L = .39200    PD = 4013.6    TO = 2919.6    HO = .51000-01

SECTION : 1) TANK

DEPENDENT VARIABLE H/HREF

PHI .0000 45.0000 67.5000 90.0000 112.5000 135.0000 157.5000 180.0000

X/L

[illegible]





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(ROL.T03)

DEPENDENT VARIABLE H/HREF

X/L

[illegible]

TABULATED SOURCE DATA - LACR N2-28 (1H19)

(RQET08)

SECTION ( 1 ) TANK

DEPENDENT VARIABLE H/HREF

FBI .0000 45.0000 67.5000 90.0000 112.5000 135.0000 157.5000 180.0000

[illegible]

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (1H19)

PAGE 159

1419 TB

EXTERNAL TANK

(RGET08)

ALPHA ( 3 ) = .000 HAW/HT( 3 ) = 1.000 RN/L = .40000 PO = 4064.5 TO = 2909.6 HO = .52000-01

SECTION ( 1 ) TANK

DEPENDENT VARIABLE H/HREF

PHI .0000 45.0000 67.5000 90.0000 112.5000 135.0000 157.5000 180.0000

[illegible]

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(RGET08)

DEPENDENT VARIABLE H/HREF

X/L

[illegible]



DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

(RQET08)

IH19 TB

EXTERNAL TANK

ALPHA ( 4 ) = 5.000 HAW/HT ( 3 ) = 1.000 RN/L = .38900 PO = 3989.0 TO = 2319.6 HD = .51000-01

SECTION : 1) TANK

DEPENDENT VARIABLE H/HREF

PHI .0000 45.0000 67.5000 90.0000 112.5000 135.0000 157.5000 180.0000

X/L									
.000									.1279
.005									.1279
.010									.0120
.020									.0647
.040									.0402
.060									.0335
.080									.0246
.100									.0179
.125									.0130
.150									.0061
.175									.0051
.200									.0040
.250									.0028
.300									*****
.325									*****
.350									.0015
.375									.0010
.400	.0029	.0013	.0005	.0003	.0021	.0012	.0008	.0007	.0010
.425						.0011	.0006	.0012	.0010
.450						.0011	.0008	.0012	.0007
.475						.0011	.0008	.0012	.0006
.500						.0011	.0008	.0012	.0002
.525						.0011	.0008	.0012	.0004
.550						.0011	.0008	.0012	.0007
.575						.0011	.0008	.0012	.0008
.600	.0023					.0016	.0012	.0010	.0004
.625						.0016	.0012	.0010	.0008
.650						.0016	.0012	.0010	.0006
.675						.0016	.0012	.0010	.0004
.700						.0017	.0009	.0010	.0004
.750						.0017	.0009	.0010	.0005
.800	.0025	.0022				.0016	.0012	.0008	.0003
.850						.0016	.0012	.0008	.0003
.900						.0016	.0012	.0008	.0003
.935						.0016	.0012	.0008	.0003
.974						.0016	.0012	.0008	.0003

TABULATED SOURCE DATA - LACR N2-28 (IH19)

		IH19 T8		EXTERNAL TANK		(ROET08)	
ALPHA ( 5 ) =	10.000	HAW/HT( 1 ) =	.850	RN/L =	.36200	PO =	3946.9
						TO =	3009.6
						HO =	.50000-01

SECTION ( 1 ) TANK

DEPENDENT VARIABLE H/HREF

PHI .0000 45.0000 67.5000 90.0000 112.5000 135.0000 157.5000 180.0000

[illegible]



TABULATED SOURCE DATA - LACR N2-28 (1H19)

1419 T8

## EXTERNAL TANK

(RQETL2)

ALPHA ( 5) = 10.000    HAW/HT ( 2) = .900    RN/L = .36200    PO = 3946.9    TO = 3009.6    HO = .50000-01

SECTION ( 1 ) TANK

DEPENDENT VARIABLE H/HREF

PHI	.0000	45.0000	67.5000	90.0000	112.5000	135.0000	157.5000	180.0000
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X/L

[illegible]

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(RQET08)

DEPENDENT VARIABLE H/HREF

X/L

[illegible]

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 B22C7F5M4V7W111 T8 ORBITER LOWER FUSELAGE

(QQEB03) ( 07 NOV 74 )

## REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000  
 LREF = 1290.3000 IN. YMRP = .0000  
 BREF = 1290.3000 IN. ZMRP = .0000  
 SCALE = .0060

## PARAMETRIC DATA

BETA = .000 RN/L = .500  
 BLTRIP = .000 DELTAH = .175  
 MACH = 19.800

ALPHA ( 1 ) = -10.000 MACH ( 1 ) = 19.800 RN/L = .36800 PO = 4011.8 TO = 3009.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE Q-DOT

Y(BP) .0000117.0000

X/L

.025	4.8975	
.050	2.4026	
.075	1.6717	
.100	1.3738	
.125	1.2502	
.150	1.3567	
.175	1.5448	
.200	1.5544	
.250	1.3293	
.300	1.1534	
.350	1.0150	.4847
.400	.9169	.5282
.450	.7992	
.500	*****	.4363
.550	.5770	
.600	.4502	.2963
.650	.0421	
.700	.1789	.2057
.750	.1149	
.800	.0715	.1001
.850	*****	
.900	.0056	.0816
.950	*****	
1.000	.0122	.0627
1.040	.0332	

ALPHA ( 2 ) = -5.000 MACH ( 1 ) = 19.800 RN/L = .38200 PO = 4022.3 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE Q-DOT

Y(BP) .0000117.0000

X/L

.025	3.9228
.050	2.1974
.075	1.5130
.100	1.1509
.125	1.0173

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

PAGE 167

IH19 B22C7F5M4V7W111 T8 ORBITER LOWER FUSELAGE

(QQEB03)

ALPHA ( 2 ) = -5.000 MACH ( 1 ) = 19.800

SECTION ( 1 ) BODY DEPENDENT VARIABLE Q-DOT

Y(BP) .0000117.0000

X/L		
.150	1.0509	
.175	1.1915	
.200	1.1435	
.250	.9886	
.300	.8140	
.350	.6959	.3160
.400	.5493	.3379
.450	.4664	
.500	*****	.2806
.550	.2692	
.600	.1475	.1361
.650	*****	
.700	.0172	.0999
.750	*****	
.800	*****	.0296
.850	*****	
.900	*****	.0245
.950	*****	
1.000	*****	.1217
1.040	.0247	

ALPHA ( 3 ) = .000 MACH ( 1 ) = 19.800 RN/L = .36500 PO = 4066.2 TO = 3039.6 HO = .31000-01

SECTION ( 1 ) BODY DEPENDENT VARIABLE Q-DOT

Y(BP) .0000117.0000

X/L		
.025	4.2760	
.050	1.6752	
.075	.9803	
.100	.6362	
.125	.7631	
.150	1.0356	
.175	1.0982	
.200	1.0628	
.250	.8584	
.300	.6622	
.350	.5421	.3965
.400	.3440	.3776
.450	.1320	
.500	*****	.2858
.550	.0833	
.600	.0223	.0149
.650	.0054	

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TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 B22C7F5M4V7W111 T8 ORBITER LOWER FUSELAGE

(QQEB03)

ALPHA ( 3 ) = .000 MACH ( 1 ) = 19.800

SECTION ( 1 ) BODY

DEPENDENT VARIABLE Q-DOT

Y(BP) .0000117.0000

X/L

.700	*****	.0918
.750	.0117	
.800	*****	.0573
.850	*****	
.900	*****	.0550
.950	*****	
1.000	.0402	.0156
1.040	*****	

ALPHA ( 4 ) = 5.000 MACH ( 1 ) = 19.800 RN/L = .36200 PO = 4029.4 TO = 3039.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE Q-DOT

Y(BP) .0000117.0000

X/L

.025	2.8541	
.050	.8560	
.075	.4236	
.100	.5749	
.125	.6378	
.150	.6605	
.175	.5932	
.200	.5191	
.250	.3083	
.300	.2427	
.350	.1231	.3408
.400	.1067	.3197
.450	*****	
.500	*****	.1446
.550	.0012	
.600	*****	.0735
.650	*****	
.700	.0182	.0770
.750	*****	
.800	*****	.0593
.850	*****	
.900	*****	.0860
.950	*****	
1.000	.0096	.0832
1.040	.0133	

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

PAGE 169

IH19 B22C7F5M4V7W111 T8 ORBITER LOWER FUSELAGE

(QQE803)

ALPHA ( 5 ) = 10.000 MACH ( 1 ) = 19.800 RN/L = .36900 PC = 4027.6 TO = 3009.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE Q-DOT

Y(BP) .0000117.0000

X/L

.025	1.2199	
.050	.5192	
.075	.3521	
.100	.3390	
.125	.2968	
.150	.2369	
.175	.2241	
.200	.1433	
.250	.0444	
.300	.0476	
.350	.0263	.1843
.400	.0033	.1402
.450	.0080	
.500	*****	.0889
.550	*****	
.600	*****	.0240
.650	*****	
.700	.0039	.0405
.750	.0067	
.800	.0066	.0165
.850	*****	
.900	.0009	.0815
.950	*****	
1.000	.0195	.0448
1.040	.0317	

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 B22C7F5M4V7H111 T8 ORBITER LOWER FUSELAGE

(00E804) ( 07 NOV 74 )

## REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000  
 LREF = 1290.3000 IN. YMRP = .0000  
 BREF = 1290.3000 IN. ZMRP = .0000  
 SCALE = .0060

## PARAMETRIC DATA

BETA = .000 RN/L = .500  
 BLTRIP = .030 DELTAH = .175  
 MACH = 19.800

ALPHA ( 1 ) = -10.000 MACH ( 1 ) = 19.800 RN/L = .37900 PO = 3992.5 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE Q-DOT

Y(BP) .0000117.0000

X/L

.025 5.3178  
 .050 2.3382  
 .075 1.6063  
 .100 1.2864  
 .125 1.0336  
 .150 1.2049  
 .175 1.6692  
 .200 1.7814  
 .250 1.6100  
 .300 1.3790  
 .350 1.2731 .4991  
 .400 1.1453 .5746  
 .450 1.0194  
 .500 .0003 .5612  
 .550 .7149  
 .600 .5371 .4448  
 .650 .0624  
 .700 .1829 .2776  
 .750 .1285  
 .800 .0588 .1880  
 .850 \*\*\*\*\*  
 .900 \*\*\*\*\* .0873  
 .950 .0066  
 1.000 .0216\*\*\*\*\*  
 1.040 .0398

ALPHA ( 2 ) = -5.000 MACH ( 1 ) = 19.800 RN/L = .38000 PO = 4032.9 TO = 2969.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE Q-DOT

Y(BP) .0000117.0000

X/L

.025 4.3249  
 .050 1.7929  
 .075 1.3130  
 .100 .9832  
 .125 .8048

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 B22C7F5M4V7W111 T8 ORBITER LOWER FUSELAGE

(00E804)

ALPHA ( 2 ) = -5.000 MACH ( 1 ) = 19.800

SECTION ( 1 ) BODY

DEPENDENT VARIABLE Q-DOT

Y(BP) .0000117.0000

X/L

.150	.9474	
.175	1.2025	
.200	1.3327	
.250	1.1574	
.300	.9646	
.350	.8622	.4188
.400	.6916	.4149
.450	.5487	
.500	*****	.3642
.550	.2907	
.600	.1907	.2594
.650	.0621	
.700	.0486	.1359
.750	.0337	
.800	.0492	.0490
.850	*****	
.900	.0286	.0422
.950	*****	
1.000	*****	.0258
1.040	.0028	

ALPHA ( 3 ) = .000 MACH ( 1 ) = 19.800 RN/L = .36000 PO = 4013.6 TO = 3039.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE Q-DOT

Y(BP) .0000117.0000

X/L

.025	3.3929	
.050	1.5297	
.075	.8894	
.100	.6616	
.125	.6966	
.150	.7425	
.175	.8499	
.200	.8719	
.250	.6996	
.300	.4966	
.350	.3417	.3389
.400	.2243	.3346
.450	.1150	
.500	*****	.2127
.550	.0417	
.600	*****	.1042
.650	*****	



DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IP'9 B22C7F5M4V7W111 TO ORBITER LOWER FUSELAGE

(QQE804)

ALPHA ( 3 ) = .000 MACH ( 1 ) = 19.800

SECTION ( 1 ) BODY

DEPENDENT VARIABLE Q-DOT

Y(BP) .0000117.0000

X/L

.700	.0171	.0491
.750	.0080	
.800	*****	.0661
.850	*****	
.900	*****	.0749
.950	*****	
1.000	.0210	.0133
1.040	*****	

ALPHA ( 4 ) = 5.000 MACH ( 1 ) = 19.800 RN/L = .37900 PO = 4020.6 TO = 2999.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE Q-DOT

Y(BP) .0000117.0000

X/L

.025	2.3607	
.050	1.0269	
.075	.5484	
.100	.5211	
.125	.5518	
.150	.5486	
.175	.5126	
.200	.4840	
.250	.2861	
.300	.1933	
.350	.0888	.2621
.400	.0616	.2717
.450	*****	
.500	*****	.1767
.550	.0013	
.600	.0013	.0666
.650	.0552	
.700	*****	.0472
.750	.0029	
.800	*****	.0614
.850	*****	
.900	.0188	.0966
.950	.0295	
1.000	.0171	.0460
1.040	.0329	

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IM19)

PAGE 173

IM19 822C7F5M4V7W111 T8 ORBITER LOWER FUSELAGE

(QQE904)

ALPHA ( S) = 10.000 MACH ( 1) = 19.800 RN/L = .36900 PO = 3967.9 TO = 2989.6 HO = .51000-01

SECTION ( 1) BODY

DEPENDENT VARIABLE Q-DOT

Y(BP) .0000117.0000

X/L		
.025	1.0136	
.050	.4590	
.075	.3289	
.100	.2455	
.125	.2332	
.150	.1569	
.175	.1437	
.200	.0820	
.250	.0748	
.300	.0259	
.350	.0187	.1215
.400	*****	.1254
.450	*****	
.500	.0070	.0740
.550	*****	
.600	.0049	*****
.650	*****	
.700	.0159	.0031
.750	*****	
.800	*****	.0227
.850	*****	
.900	.0121	.0584
.950	*****	
1.000	*****	.0272
1.040	.0316	

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 322C7F5M4V7W111

ORBITER LOWER FUSELAGE

(QQE805) ( 07 NOV 74 )

## REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000  
 LREF = 1290.3000 IN. YMRP = .0000  
 BREF = 1290.3000 IN. ZMRP = .0000  
 SCALE = .0060

## PARAMETRIC DATA

BETA = .000 RN/L = .500  
 BLTRIP = .000 MACH = 19.800

ALPHA ( 1 ) = -10.000 MACH ( 1 ) = 19.800 RN/L = .38000 PO = 4002.3 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE Q-DOT

Y(BP) .0000117.0000

X/L

.025	3.3285	
.050	1.2470	
.075	.7815	
.100	.5901	
.125	.4520	
.150	.2157	
.175	.2790	
.200	.2702	
.250	.1920	
.300	.1150	
.350	.1271	.1841
.400	.1382	.1689
.450	.1139	
.500	.2894	.1765
.550	.1639	
.600	.1382	.1140
.650	*****	
.700	.1313	.1034
.750	.1053	
.800	.1206	.0692
.850	*****	
.900	.1031	.0960
.950	.1176	
1.000	.0485	.0295
1.040	.0763	

ALPHA ( 2 ) = -5.000 MACH ( 1 ) = 19.800 RN/L = .38000 PO = 4004.8 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE Q-DOT

Y(BP) .0000117.0000

X/L

.025	3.6447
.050	1.4293
.075	.9846
.100	.7560
.125	.5686

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 ORIGINAL PAGE IS POOR.

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 B22C7F5M4V7W111

ORBITER LOWER FUSELAGE

(QQEB05)

ALPHA ( 2 ) = -5.000 MACH ( 1 ) = 19.800

SECTION ( 1 ) BODY

DEPENDENT VARIABLE Q-DOT

Y(BP) .0000117.0000

X/L

.150	.3572	
.175	.3685	
.200	.3205	
.250	.2875	
.300	.2076	
.350	.2241	.3125
.400	.1642	.2849
.450	.1297	
.500	*****	.2941
.550	.1761	
.600	.1483	.1771
.650	*****	
.700	.0921	.1575
.750	.1401	
.800	.1373	.1332
.850	*****	
.900	.0601	.1278
.950	.1156	
1.000	.0583	.0270
1.040	.0383	

ALPHA ( 3 ) = .000 MACH ( 1 ) = 19.800 RN/L = .35800 PO = 3982.0 TO = 3039.6 HO = .50000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE Q-DOT

Y(BP) .0000117.0000

X/L

.025	4.3841	
.050	1.9432	
.075	1.3941	
.100	1.0492	
.125	.7970	
.150	.5533	
.175	.5530	
.200	.4356	
.250	.4293	
.300	.2927	
.350	.3126	.4927
.400	.2863	.4480
.450	.2600	
.500	*****	.4548
.550	.0482	
.600	*****	.3089
.650	*****	

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

PAGE 176

IH19 B22C7F5M4V7W111

ORBITER LOWER FUSELAGE

(QGE805)

ALPHA ( 3 ) = .000 MACH ( 1 ) = 19.800

SECTION ( 1 ) BODY

DEPENDENT VARIABLE Q-DOT

Y(BP) .0000117.0000

X/L

.700	.0999	.2811
.750	.1195	
.800	.2080	.2128
.850	*****	
.900	.1644	.2201
.950	.1411	
1.000	.1070	.0353
1.040	.1285	

ALPHA ( 4 ) = 5.000 MACH ( 1 ) = 19.800 RN/L = .36400 PO = 3975.0 TO = 3009.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE Q-DOT

Y(BP) .0000117.0000

X/L

.025	5.0126	
.050	2.3050	
.075	1.6912	
.100	1.3357	
.125	1.0603	
.150	.6924	
.175	.6798	
.200	.7543	
.250	.5297	
.300	.4664	
.350	.3732	.6843
.400	.3643	.7424
.450	.3464	
.500	*****	.6565
.550	.2629	
.600	.2641	.5815
.650	*****	
.700	.2568	.4631
.750	.2396	
.800	.1774	.4025
.850	*****	
.900	.2234	.3186
.950	.1946	
1.000	.1110	.1101
1.040	.1013	

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TABULATED SOURCE DATA - LACR N2-28 (IH19)

PAGE 177

IH19 B22C7F5M4V7W111

ORBITER LOWER FUSELAGE

(QQE805)

ALPHA ( 5 ) = 10.000 MACH ( 1 ) = 19.800 RN/L = .38100 PO = 4011.8 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE G-DOT

Y(BP) .0000117.0000

X/L

.025	6.3462	
.050	3.0553	
.075	2.3341	
.100	1.8976	
.125	1.5348	
.150	.9239	
.175	1.1256	
.200	1.1217	
.250	.8987	
.300	.8034	
.350	.7275	1.1221
.400	.7103	1.2809
.450	.6126	
.500	*****	1.2924
.550	.6091	
.600	.5581	1.0899
.650	*****	
.700	.4982	.9520
.750	.4986	
.800	.4976	.8138
.850	*****	
.900	.3828	.6623
.950	.3300	
1.000	.3064	.3638
1.040	.2557	

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TABULATED SOURCE DATA - LACR N2-28 (IH19)

PAGE 178

IH19 B22C7F5M4V7W111

ORBITER LOWER FUSELAGE

(QDLB02) ( 07 NOV 74 )

## REFERENCE DATA

SREF = 2890.0000 SQ.FT. XMRP = .0000  
 LREF = 1290.3000 IN. YMRP = .0000  
 BREF = 1290.3000 IN. ZMRP = .0000  
 SCALE = .0060

## PARAMETRIC DATA

BETA = .000 RN/L = .500  
 BLTRIP = .000 MACH = 19.800

ALPHA ( 1 ) = -10.000 MACH ( 1 ) = 19.800 RN/L = .36500 PO = 4010.1 TO = 3019.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE Q-DOT

Y(BP) .0000117.0000

X/L

.025	3.3573	
.050	1.1601	
.075	.7762	
.100	.5376	
.125	.4503	
.150	.3929	
.175	.3486	
.200	.3366	
.250	.1787	
.300	.1836	
.350	.1944	.2323
.400	.1325	.2193
.450	.1297	
.500	.1660	.1358
.550	.1392	
.600	.0943	.1143
.650	.3794	
.700	.1053	.1350
.750	.0904	
.800	.1170	.1105
.850	*****	
.900	.0761	.0730
.950	.0620	
1.000	.0602	.0040
1.040	.0516	

ALPHA ( 2 ) = -5.000 MACH ( 1 ) = 19.800 RN/L = .36400 PO = 3999.5 TO = 3019.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE Q-DOT

Y(BP) .0000117.0000

X/L

.025	3.8254
.050	1.4866
.075	1.0409
.100	.7238
.125	.6043

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TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 B22C7F5M4V7W111

ORBITER LOWER FUSELAGE

(QQE806)

ALPHA ( 2 ) = -5.000 MACH ( 1 ) = 19.800

SECTION ( 1 ) BODY

DEPENDENT VARIABLE Q-DOT

Y(BP) .0000117.0000

X/L

.150	.4539	
.175	.4067	
.200	.3740	
.250	.3063	
.300	.2078	
.350	.1995	.2659
.400	.1671	.2667
.450	.1598	
.500	*****	.2479
.550	.1166	
.600	.1489	.2214
.650	*****	
.700	.1283	.1566
.750	.0733	
.800	.1127	.1347
.850	.0081	
.900	.0932	.1167
.950	.0075	
1.000	.0623	.0277
1.040	.0360	

ALPHA ( 3 ) = .000 MACH ( 1 ) = 19.800 RN/L = .35600 PO = 3966.2 TO = 3039.6 HO = .50000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE Q-DOT

Y(BP) .0000117.0000

X/L

.025	4.1611	
.050	1.8691	
.075	1.2751	
.100	.9461	
.125	.7729	
.150	.6596	
.175	.5635	
.200	.4843	
.250	.3545	
.300	.3129	
.350	.2814	.4502
.400	.2580	.4188
.450	.2392	
.500	.1980	.4115
.550	.1983	
.600	.2177	.3178
.650	.4460	



DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

PAGE 180

IH19 B22C7F5M4V7W111

ORBITER LOWER FUSELAGE

(QQEB06)

ALPHA ( 3 ) = .000 MACH ( 1 ) = 19.800

SECTION ( 1 ) BODY

DEPENDENT VARIABLE Q-DOT

Y(BP) .0000117.0000

X/L

.700	.1417	.2395
.750	.1179	
.800	.0240	.2095
.850	.0061	
.900	*****	.2054
.950	*****	
1.000	.1062	.0244
1.040	.0367	

ALPHA ( 4 ) = 5.000 MACH ( 1 ) = 19.800 RN/L = .39500 PO = 4018.8 TO = 2909.6 HO = .52000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE Q-DOT

Y(BP) .0000117.0000

X/L

.025	4.9701	
.050	2.6235	
.075	1.6265	
.100	1.3083	
.125	1.0599	
.150	.8524	
.175	.7746	
.200	.6379	
.250	.5552	
.300	.4977	
.350	.4463	.7050
.400	.3692	.7500
.450	.3615	
.500	*****	.7678
.550	.2897	
.600	.3212	.5553
.650	*****	
.700	.2202	.4430
.750	.2330	
.800	.2906	.3975
.850	.0019	
.900	.1811	.3291
.950	.1484	
1.000	.1554	.2181
1.040	.1703	

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TABULATED SOURCE DATA - LAGR N2-25 (IH19)

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IH19 B22C7F5M4V7W111

ORBITER LOWER FUSELAGE

(QQE806)

ALPHA ( 5 ) = 10.000 MACH ( 1 ) = 19.800 RN/L = .38000 PO = 4006.5 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE Q-DOT

Y(BP) .0000117.0000

X/L

.025	6.1679	
.050	2.9769	
.075	2.2776	
.100	1.8556	
.125	1.5407	
.150	1.2903	
.175	1.1327	
.200	1.0563	
.250	.9460	
.300	.7650	
.350	.7550	1.1180
.400	.7176	1.2512
.450	.6861	
.500	.2139	1.3047
.550	.6712	
.600	.5763	1.0464
.650	.4667	
.700	.5534	.8949
.750	.5469	
.800	.4791	.7828
.850	.0232	
.900	.3880	.6927
.950	.3475	
1.000	.2602	.4309
1.040	.2502	

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 B22C7F5M4V7H111 T8 ORBITER FUSELAGE CHINE

(QQEC03) ( 07 NOV 74 )

REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000  
LREF = 1290.3000 IN. YMRP = .0000  
BREF = 1290.3000 IN. ZMRP = .0000  
SCALE = .0060

PARAMETRIC DATA

BETA = .000 RN/L = .500  
ELTRIP = .000 DELTAH = .175  
MACH = 19.800

ALPHA ( 1 ) = -10.000 MACH ( 1 ) = 19.800 RN/L = .36800 PO = 4011.8 TO = 3009.6 HO = .51000-01

SECTION ( 1 ) CHINE

DEPENDENT VARIABLE Q-DOT

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
.150 1.5576  
.200 .9050

ALPHA ( 2 ) = -5.000 MACH ( 1 ) = 19.800 RN/L = .38200 PO = 4022.3 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) CHINE

DEPENDENT VARIABLE Q-DOT

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
.150 1.3055  
.200 .7224

ALPHA ( 3 ) = .000 MACH ( 1 ) = 19.800 RN/L = .36500 PO = 4065.2 TO = 3039.6 HO = .51000-01

SECTION ( 1 ) CHINE

DEPENDENT VARIABLE Q-DOT

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
.150 1.2403  
.200 .6086

ALPHA ( 4 ) = 5.000 MACH ( 1 ) = 19.800 RN/L = .36200 PO = 4029.4 TO = 3039.6 HO = .51000-01

SECTION ( 1 ) CHINE

DEPENDENT VARIABLE Q-DOT

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
.150 .8945  
.200 .4249

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ORIGINAL PAGE IS POOR

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 B2207F5M4V7H111 TS ORBITER FUSELAGE CHINE

(QQEC03)

ALPHA ( 5 ) = 10.000 MACH ( 1 ) = 19.800 RN/L = .36900 PO = 4027.6 TO = 3009.6 HO = .51000-01

SECTION ( 1 ) CHINE

DEPENDENT VARIABLE Q-DOT

ANGLE 30.0000

X/C

.100	*****
.150	.5567
.200	.2675

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 B22C7F5M4V7W111 TB ORBITER FUSELAGE CHINE

(QREC04) ( 07 NOV 74 )

## REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000  
 LREF = 1290.3000 IN. YMRP = .0000  
 BREF = 1290.3000 IN. ZMRP = .0000  
 SCALE = .0060

## PARAMETRIC DATA

BETA = .000 RN/L = .500  
 BLTRIP = .030 DELTAH = .175  
 MACH = 19.800

ALPHA ( 1 ) = -10.000 MACH ( 1 ) = 19.800 RN/L = .37900 PO = 3992.5 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) CHINE

DEPENDENT VARIABLE Q-DOT

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
 .150 1.3801  
 .200 .7980

ALPHA ( 2 ) = -5.000 MACH ( 1 ) = 19.800 RN/L = .38000 PO = 4032.9 TO = 2969.6 HO = .51000-01

SECTION ( 1 ) CHINE

DEPENDENT VARIABLE Q-DOT

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
 .150 1.3075  
 .200 .6718

ALPHA ( 3 ) = .000 MACH ( 1 ) = 19.800 RN/L = .36000 PO = 4013.6 TO = 3039.6 HO = .51000-01

SECTION ( 1 ) CHINE

DEPENDENT VARIABLE Q-DOT

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
 .150 1.1051  
 .200 .5491

ALPHA ( 4 ) = 5.000 MACH ( 1 ) = 19.800 RN/L = .37900 PO = 4020.6 TO = 2969.6 HO = .51000-01

SECTION ( 1 ) CHINE

DEPENDENT VARIABLE Q-DOT

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
 .150 .8921  
 .200 .4115

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TABULATED SOURCE DATA - LACR N2-28 (IH19)

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1H19 B22C7F5M4V7H111 TB ORBITER FUSELAGE CHINE

(00EC04)

ALPHA ( S ) = 10.000 MACH ( 1 ) = 19.800 RN/L = .35900 PO = 3567.9 TO = 2989.6 HO = .51000-01

SECTION ( 1 ) CHINE

DEPENDENT VARIABLE Q-DOT

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
.150 .4813  
.200 .1941

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 B22C7F5M4V7W111

ORBITER FUSELAGE CHINE

(QQEC05) ( 07 NOV 74 )

## REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000  
 LREF = 1290.3000 IN. YMRP = .0000  
 BREF = 1290.3000 IN. ZMRP = .0000  
 SCALE = .0060

## PARAMETRIC DATA

BETA = .000 RN/L = .500  
 BLTRIP = .000 MACH = 19.800

ALPHA ( 1 ) = -10.000 MACH ( 1 ) = 19.800 RN/L = .38000 PO = 4008.3 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) CHINE

DEPENDENT VARIABLE Q-DOT

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
 .150 .9455  
 .200 .3515

ALPHA ( 2 ) = -5.000 MACH ( 1 ) = 19.800 RN/L = .38000 PO = 4004.8 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) CHINE

DEPENDENT VARIABLE Q-DOT

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
 .150 .9909  
 .200 .4800

ALPHA ( 3 ) = .000 MACH ( 1 ) = 19.800 RN/L = .35800 PO = 3982.0 TO = 3039.6 HO = .50000-01

SECTION ( 1 ) CHINE

DEPENDENT VARIABLE Q-DOT

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
 .150 1.4725  
 .200 .6498

ALPHA ( 4 ) = 5.000 MACH ( 1 ) = 19.800 RN/L = .35400 PO = 3975.0 TO = 3009.6 HO = .51000-01

SECTION ( 1 ) CHINE

DEPENDENT VARIABLE Q-DOT

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
 .150 1.7318  
 .200 .8655

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TABULATED SOURCE DATA - LACR N2-28 (IH19)

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ALPHA ( 5 ) = 10.000

MACH ( 1 ) =

IH19 B22C7F5M4V7H111

ORBITER FUSELAGE CHINE

(QQEC05)

19.800 RN/L = .38100

PO = 4011.8

TO

= 2959.6

HO

= .51000-01

SECTION ( 1 ) CHINE

DEPENDENT VARIABLE Q-DOT

ANGLE 30.0000

X/C

.100 \*\*\*\*\*

.150 2.2080

.200 1.4228



DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-2B (IH19)

PAGE 188

IH19 82207F5M4V7H111

ORBITER FUSELAGE CHINE

(QOEC06) ( 07 NOV 74 )

## REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000  
 LREF = 1290.3000 IN. YMRP = .0000  
 BREF = 1290.3000 IN. ZMRP = .0000  
 SCALE = .0060

## PARAMETRIC DATA

BETA = .000 RN/L = .500  
 BLTRIP = .000 MACH = 19.800

ALPHA ( 1 ) = -10.000 MACH ( 1 ) = 19.800 RN/L = .36500 PO = 4010.1 TO = 3019.6 HO = .51000-01

SECTION ( 1 ) CHINE

DEPENDENT VARIABLE Q-DOT

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
 .150 .9060  
 .200 .3764

ALPHA ( 2 ) = -5.000 MACH ( 1 ) = 19.800 RN/L = .36400 PO = 3999.5 TO = 3019.6 HO = .51000-01

SECTION ( 1 ) CHINE

DEPENDENT VARIABLE Q-DOT

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
 .150 1.1324  
 .200 .4546

ALPHA ( 3 ) = .000 MACH ( 1 ) = 19.800 RN/L = .35600 PO = 3966.2 TO = 3039.6 HO = .50000-01

SECTION ( 1 ) CHINE

DEPENDENT VARIABLE Q-DOT

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
 .150 1.2958  
 .200 .6308

ALPHA ( 4 ) = 5.000 MACH ( 1 ) = 19.800 RN/L = .39500 PO = 4018.8 TO = 2909.6 HO = .52000-01

SECTION ( 1 ) CHINE

DEPENDENT VARIABLE Q-DOT

ANGLE 30.0000

X/C

.100 \*\*\*\*\*  
 .150 1.7418  
 .200 .9223

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 B22C7F5M4V7W111

ORBITER FUSELAGE CHINE

(QOEC06)

ALPHA ( 5 ) = 10.000

MACH ( 1 ) = 19.800

RN/L = .38000

PO

= 4006.5

TO

= 2959.6

HO

= .51000-01

SECTION ( 1 ) CHINE

DEPENDENT VARIABLE Q-DOT

ANGLE 30.0000

X/C

.100 \*\*\*\*\*

.150 2.2976

.200 1.4025

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

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(IH19 B22C7F5M4V7W111) T8 ORBITER UPPER FUSELAGE

(QQEU03) ( 07 NOV 74 )

## REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000  
 LREF = 1290.3000 IN. YMRP = .0000  
 BREF = 1290.3000 IN. ZMRP = .0000  
 SCALE = .0060

## PARAMETRIC DATA

BETA = .000 RN/L = .500  
 BLTRIP = .000 DELTAH = .175  
 MACH = 19.800

ALPHA ( 1 ) = -10.000 MACH ( 1 ) = 19.800 RN/L = .36800 PO = 4011.8 TO = 3009.6 HO = .51000-01

## SECTION ( 1 ) BODY

## DEPENDENT VARIABLE Q-DOT

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z (WL)

375.000 ..... .0290 .2511 .0134 .0499  
 400.000 ..... .3987  
 425.000 .5228 .5659 ..... .3245 .2385  
 465.000 .....  
 501.000 4.0136 .0796 .5944 .6750 .0328 .4978

ALPHA ( 2 ) = -5.000 MACH ( 1 ) = 19.800 RN/L = .38200 PO = 4022.3 TO = 2959.6 HO = .51000-01

## SECTION ( 1 ) BODY

## DEPENDENT VARIABLE Q-DOT

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z (WL)

375.000 ..... .0117 .2036 ..... .0521  
 400.000 ..... .3407  
 425.000 .4454 .3782 ..... .2426 .2852  
 465.000 .....  
 501.000 2.7837 ..... .3661 .3782 .0161 .4047

ALPHA ( 3 ) = .000 MACH ( 1 ) = 19.800 RN/L = .36500 PO = 4066.2 TO = 3039.6 HO = .51000-01

## SECTION ( 1 ) BODY

## DEPENDENT VARIABLE Q-DOT

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z (WL)

375.000 ..... .0149 .0765 ..... .0865  
 400.000 ..... .3904  
 425.000 .6263 .1421 ..... .2536 .1351  
 465.000 .....  
 501.000 6.7929 ..... .0934 .2481 ..... .1514

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DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 B22C7F5M4V7W111 T3 ORBITER UPPER FUSELAGE

(QQEU03)

ALPHA ( 4 ) = 5.000 MACH ( 1 ) = 19.800 RN/L = .36200 PO = 4029.4 TO = 3039.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE Q-DOT

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z (HL)

375.000	*****	.0085		.1663*****	.0466	
400.000			.2393			
425.000	.3822	.2814		*****	.1707	.0861
465.000						.0184
501.000	3.7186	.0832	.2971	.2084*****	.1515	

ALPHA ( 5 ) = 10.000 MACH ( 1 ) = 19.800 RN/L = .36900 PO = 4027.6 TO = 3009.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE Q-DOT

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z (HL)

375.000	*****	.0145		.1824	.0249	.0548	
400.000			.2785				
425.000	.3082	.1683		*****	.2005	.0584	
465.000							.0159
501.000	1.3777	.0399	.1873	.1758	.0322	.0843	

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TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 922C7F5M+V7W111 TB ORBITER UPPER FUSELAGE

(QGEU04) ( 07 NOV 74 )

## REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000  
 LREF = 1290.3000 IN. YMRP = .0000  
 BREF = 1290.3000 IN. ZMRP = .0000  
 SCALE = .0060

## PARAMETRIC DATA

BETA = .000 RN/L = .500  
 BLTRIP = .030 DELTAH = .175  
 MACH = 19.800

ALPHA ( 1 ) = -10.000 MACH ( 1 ) = 19.800 RN/L = .37900 PO = 3992.5 TO = 2959.6 HO = .51000-01

## SECTION ( 1 ) BODY

## DEPENDENT VARIABLE Q-DOT

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z(WL)  
 375.000 \*\*\*\*\* .0381 .2560 .0466 .0945  
 400.000 .4241 .4335 .3643  
 425.000 .6381 .6235 \*\*\*\*\* .4335 .3643  
 465.000 .70574 .0108 .6278 .7506\*\*\*\*\* .6611  
 501.000

ALPHA ( 2 ) = -5.000 MACH ( 1 ) = 19.800 RN/L = .38000 PO = 4032.9 TO = 2969.6 HO = .51000-01

## SECTION ( 1 ) BODY

## DEPENDENT VARIABLE Q-DOT

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z(WL)  
 375.000 .4936 .0138 .3142 .0070 .0542  
 400.000 .3850 .2657 .2549  
 425.000 .5852 .3591 \*\*\*\*\* .2657 .2549  
 465.000 5.5419 .9102 .3210 .4008\*\*\*\*\* .5485  
 501.000

ALPHA ( 3 ) = .000 MACH ( 1 ) = 19.800 RN/L = .38000 PO = 4013.6 TO = 3039.6 HO = .51000-01

## SECTION ( 1 ) BODY

## DEPENDENT VARIABLE Q-DOT

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z(WL)  
 375.000 \*\*\*\*\* .0672 .1922 .0223 .0761  
 400.000 .3494 .2268 .2104  
 425.000 .4546 .2164 \*\*\*\*\* .2268 .2104  
 465.000 4.6530 .0828 .1947 .1445\*\*\*\*\* .1255  
 501.000

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

PAGE 193

IH19 B22C7F5M4V7W111 TB ORBITER UPPER FUSELAGE

(QOEJ04)

ALPHA ( 4 ) = 5.000 MACH ( 1 ) = 19.800 RN/L = .37900 PO = 4020.6 TO = 2969.6 HO = .51000-01

SECTION : 11800Y

DEPENDENT VARIABLE Q-DOT

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z(HL)

375.000

400.000

425.000

465.000

501.000

.5317 .0272 .2246\*\*\*\*\* .0219  
 .3480 .2879 .2721 \*\*\*\*\* .1851 .0937 \*\*\*\*\*  
 2.4832 .0051 .2728 .2029\*\*\*\*\* .1089

ALPHA ( 5 ) = 10.000 MACH ( 1 ) = 19.800 RN/L = .36900 PO = 3967.9 TO = 2989.6 HO = .51000-01

SECTION : 11800Y

DEPENDENT VARIABLE Q-DOT

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z(HL)

375.000

400.000

425.000

465.000

501.000

\*\*\*\*\* .0126 .1333 .0117 .0071  
 .2378 \*\*\*\*\* .1677 .1467  
 1.1636 .0240 .1315 .1570 .0027 .0743 .0173

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

PAGE 194

IH19 822C7F5M4V7W111

ORPITER UPPER FUSELAGE

(QQEU05) ( 07 NOV 74 )

## REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000  
 LREF = 1290.3000 IN. YMRP = .0000  
 BREF = 1290.3000 IN. ZMRP = .0000  
 SCALE = .0060

## PARAMETRIC DATA

BETA = .000 RN/L = .500  
 BLTRIP = .000 MACH = 19.800

ALPHA ( 1 ) = -10.000 MACH ( 1 ) = 19.800 RN/L = .38000 PO = 4008.3 TO = 2959.6 HO = .51000-01

## SECTION ( 1 ) BODY

## DEPENDENT VARIABLE Q-DOT

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

## Z(WL)

375.000 .0511\*\*\*\*\* .2821 .0145 .0531  
 400.000 .4275 .3993 .3137  
 425.000 .5819 .7818 .0213  
 465.000 .8896 .0284 .6266  
 501.000 6.7231\*\*\*\*\* .8810 .0284 .6266

ALPHA ( 2 ) = -5.000 MACH ( 1 ) = 19.800 RN/L = .38000 PO = 4004.8 TO = 2959.6 HO = .51000-01

## SECTION ( 1 ) BODY

## DEPENDENT VARIABLE Q-DOT

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

## Z(WL)

375.000 .0185\*\*\*\*\* .1771\*\*\*\*\* .0909  
 400.000 .3355 .2882 .1695  
 425.000 .5082 .4506 .0111  
 465.000 .6160\*\*\*\*\* .6001  
 501.000 6.5217\*\*\*\*\* .4758 .6160\*\*\*\*\* .6001

ALPHA ( 3 ) = .000 MACH ( 1 ) = 19.800 RN/L = .35800 PO = 3982.0 TO = 3039.6 HO = .50000-01

## SECTION ( 1 ) BODY

## DEPENDENT VARIABLE Q-DOT

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

## Z(WL)

375.000 .1176\*\*\*\*\* .1762 .0184 .0547  
 400.000 .2700 .1634\*\*\*\*\*  
 425.000 .4400 .3362 .0249  
 465.000 .2761 .0377 .2694  
 501.000 4.8707\*\*\*\*\* .3082 .2761 .0377 .2694

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

PAGE 195

IH19 B227F5M4V7W111

ORBITER UPPER FUSELAGE

(QQEU05)

ALPHA ( 4 ) = 5.000 MACH ( 1 ) = 19.800 RN/L = .35400 PO = 3975.0 TO = 3009.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE Q-DOT

X/L	.1700	.3000	.4000	.4250	.5000	.6000	.7000	.8250
Z(HL)								
375.000		.0178*****			.2189	.0060	.0215	
400.000				.2470		.1143	.1097	
425.000		.4541	.2415					.0087
465.000						.1581*****	.1001	
501.000	3.7387*****		.2141					

ALPHA ( 5 ) = 10.000 MACH ( 1 ) = 19.800 RN/L = .38100 PO = 4011.8 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE Q-DOT

X/L	.1700	.3000	.4000	.4250	.5000	.6000	.7000	.8250
Z(HL)								
375.000		.0177*****			.3302*****		.0756	
400.000				.3323		.2421	.2817	
425.000		.4278	.2478					.0073
465.000						.1146	.0093	.0726
501.000	2.3820*****		.2268					



DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 B22C7F5M4V7W111

ORBITER UPPER FUSELAGE

(00EUD6) ( 07 NOV 74 )

## REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000  
 LREF = 1290.3000 IN. YMRP = .0000  
 BREF = 1290.3000 IN. ZMRP = .0000  
 SCALE = .0060

## PARAMETRIC DATA

BETA = .000 RN/L = .500  
 BLTRIP = .000 MACH = 19.800

ALPHA ( 1 ) = -10.000 MACH ( 1 ) = 19.800 RN/L = .36500 PO = 4010.1 TO = 3019.6 HO = .51000-01

## SECTION ( 1 ) BODY

## DEPENDENT VARIABLE Q-DOT

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z(HL)

375.000 .4534\*\*\*\*\* .2840\*\*\*\*\* .0417  
 400.000 .4226  
 425.000 .6354 .8932 \*\*\*\*\* .3685 .3157  
 465.000 .0040  
 501.000 7.7327\*\*\*\*\* .9250 .9203\*\*\*\*\* .6992

ALPHA ( 2 ) = -5.000 MACH ( 1 ) = 19.800 RN/L = .36400 PO = 3999.5 TO = 3019.6 HO = .51000-01

## SECTION ( 1 ) BODY

## DEPENDENT VARIABLE Q-DOT

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z(HL)

375.000 .2914\*\*\*\*\* .1909 .0116 .0668  
 400.000 .3172  
 425.000 .5243 .5136 \*\*\*\*\* .2585 .2385  
 465.000 \*\*\*\*\*  
 501.000 7.3755\*\*\*\*\* .5323 .5377\*\*\*\*\* .5994

ALPHA ( 3 ) = .000 MACH ( 1 ) = 19.800 RN/L = .35600 PO = 3966.2 TO = 3039.6 HO = .50000-01

## SECTION ( 1 ) BODY

## DEPENDENT VARIABLE Q-DOT

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z(HL)

375.000 .0004 .4271 .1991 .0047 .0586  
 400.000 .3056  
 425.000 .4425 .2565 \*\*\*\*\* .2452 .1865  
 465.000 .0104  
 501.000 4.6598 .4514 .2476 .3007 .0225 .2564

REPRODUCIBILITY OF THE  
 ORIGINAL PAGE IS POOR

DATE 03 NOV 75

## TABULATED SOURCE DATA - LACR N2-28 (1H19)

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1H19 B22C7F5M4V7W111

ORBITER UPPER FUSELAGE

(QQEU06)

ALPHA ( 4 ) = 5.000 MACH ( 1 ) = 19.800 RN/L = .39500 PO = 4018.8 TO = 2909.6 HO = .52000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE Q-DOT

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z(HL)

375.000

.1653\*\*\*\*\*

.2268\*\*\*\*\*

.0757

400.000

425.000

.4131

.2042

.2740

\*\*\*\*\*

.1778

.1947

465.000

501.000

3.8187\*\*\*\*\*

.2134

.2158\*\*\*\*\*

.1442

.0258

ALPHA ( 5 ) = 10.000

MACH ( 1 ) =

19.800

RN/L =

.38000

PO

= 4006.5

TO

= 2959.6

HO

= .51000-01

SECTION ( 1 ) BODY

DEPENDENT VARIABLE Q-DOT

X/L .1700 .3000 .4000 .4250 .5000 .6000 .7000 .8250

Z(HL)

375.000

.5467\*\*\*\*\*

.2899\*\*\*\*\*

.0558

400.000

425.000

.4246

.2635

.3369

\*\*\*\*\*

.2499

.2840

465.000

501.000

2.4279

.4402

.1902

.1910\*\*\*\*\*

.0916

.0154

IH19 B22C7F5H4V7W111 TS ORBITER LOWER WING

(QOEW03) ( 07 NOV 74 )

## REFERENCE DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000  
 LREF = 1290.3000 IN. YMRP = .0000  
 BREF = 1290.3000 IN. ZMRP = .0000  
 SCALE = .0060

## PARAMETRIC DATA

BETA = .000 RN/L = .500  
 BLTRIP = .000 DELTAH = .175  
 MACH = 19.800

ALPHA ( 1 ) = -10.000 MACH ( 1 ) = 19.800 RN/L = .36800 PO = 4011.8 TO = 3009.6 HO = .51000-01

## SECTION ( 1 ) WING

## DEPENDENT VARIABLE Q-DOT

2Y/B .4000 .6000 .8000

## X/C

.050	1.4075		
.100	1.2538	2.2690	
.200	.6716	1.3573	1.6485
.300	.3913	.7109	
.400	.2878	.5279	1.0233
.500	.2386	.4361	
.600	.2121	.3509	.6007
.700	.1877	.3370	
.800	.1721	.2667	.4758
.900	*****	.1478	

ALPHA ( 2 ) = -5.000 MACH ( 1 ) = 19.800 RN/L = .38200 PO = 4022.3 TO = 2959.6 HO = .51000-01

## SECTION ( 1 ) WING

## DEPENDENT VARIABLE Q-DOT

2Y/B .4000 .6000 .8000

## X/C

.050	.9013		
.100	.8809	1.9352	
.200	.5535	1.3576	1.7538
.300	.2763	.7124	
.400	.2095	.4586	1.1335
.500	.1783	.3627	
.600	.1329	.3391	.6617
.700	.1420	.2877	
.800	.1229	.2062	.4913
.900	*****	.2006	

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-29 (IH19)

PAGE 199

IH19 B22C7F5M4V7W111 T8 ORBITER LOWER WING

(QQEW03)

ALPHA ( 3 ) = .000 MACH ( 1 ) = 19.800 RN/L = .36500 PO = 4066.2 TO = 3039.6 HO = .51000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE Q-DOT

2Y/B .4000 .6000 .8000

X/C

.050	1.1561		
.100	.9142	1.6777	
.200	.5732	1.1697	2.1579
.300	.4132	.8631	
.400	.3272	.7055	1.3934
.500	.3566	.6087	
.600	.3002	.5135	.9231
.700	.2574	.4434	
.800	.2133	.3310	.6643
.900	*****	.2321	

ALPHA ( 4 ) = 5.000 MACH ( 1 ) = 19.800 RN/L = .36200 PO = 4029.4 TO = 3039.6 HO = .51000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE Q-DOT

2Y/B .4000 .6000 .8000

X/C

.050	.7031		
.100	.5681	1.3039	
.200	.3637	.9524	1.8640
.300	.2648	.6890	
.400	.2392	.5826	1.2706
.500	.2061	.4855	
.600	.2065	.4624	.8605
.700	.1812	.4568	
.800	.1653	.3469	.6754
.900	*****	.1780	

ALPHA ( 5 ) = 10.000 MACH ( 1 ) = 19.800 RN/L = .36900 PO = 4027.6 TO = 3009.6 HO = .51000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE Q-DOT

2Y/B .4000 .6000 .8000

X/C

.050	.1967		
.100	.2062	1.5418	
.200	.1835	1.1862	1.9197
.300	.1852	.9302	
.400	.1786	.7785	1.4374
.500	.1516	.6965	
.600	.1949	.6232	.9584
.700	.1552	.5868	
.800	.1622	.4816	.7718

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TABULATED SOURCE DATA - LACR N2-22 (IH19)

PAGE 200

IH19 B22C7F5M4V7H111 T8 ORBITER LOWER WING

(QQEN03)

ALPHA ( 5 ) = 10.000 MACH ( 1 ) = 19.800

SECTION ( 1 ) WING

DEPENDENT VARIABLE Q-DOT

2Y/B .4000 .6000 .8000

X/C

.900 ..... .2928

DATE 03 NOV 75

TABULATED SOURCE DATA - LAGR N2-28 (IH19)

PAGE 201

IH19 B22C7F5M4V7W111 T8 ORBITER LOWER WING

(QQEH04) ( 07 NOV 74 )

## REFERENCE DATA

SREF = 2590.0000 SQ.FT. XMRP = .0000  
 LREF = 1290.3000 IN. YMRP = .0700  
 BREF = 1290.3000 IN. ZMRP = .0000  
 SCALE = .0060

## PARAMETRIC DATA

BETA = .000 RN/L = .500  
 BLTRIP = .030 DELTAH = .175  
 MACH = 19.800

ALPHA ( 1 ) = -10.000 MACH ( 1 ) = 19.800 RN/L = .37500 PO = 3992.5 TO = 2959.6 HO = .51000-01

## SECTION ( 1 ) WING

## DEPENDENT VARIABLE Q-DOT

2Y/B .4000 .6000 .8000

## X/C

.050	1.4096		
.100	1.0509	1.7808	
.200	.6555	1.1570	1.7253
.300	.4313	.8087	
.400	.3750	.6666	1.0541
.500	.2768	.5372	
.600	.2097	.4071	.7243
.700	.2175	.4174	
.800	.1844	.3505	.4823
.900	*****	.1837	

ALPHA ( 2 ) = -5.000 MACH ( 1 ) = 19.800 RN/L = .38000 PO = 4032.9 TO = 2969.6 HO = .51000-01

## SECTION ( 1 ) WING

## DEPENDENT VARIABLE Q-DOT

2Y/B .4000 .6000 .8000

## X/C

.050	.8577		
.100	.6978	1.5291	
.200	.4805	1.0140	1.8571
.300	.3313	.6757	
.400	.2544	.5252	1.0495
.500	.2564	.4359	
.600	.1949	.3930	.6886
.700	.1823	.3593	
.800	.1403	.2348	.4941
.900	*****	.1598	

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-23 (IH19)

PAGE 202

IH19 B22C7F5H4V7H111 TG ORBITER LOWER WING

(QGEN04)

ALPHA ( 3 ) = .000 MACH ( 1 ) = 19.800 RN/L = .36000 PO = 4013.6 TO = 3039.6 HO = .51000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE Q-DOT

2Y/B .4000 .6000 .8000

X/C

.050	.8076		
.100	.7159	1.6374	
.200	.4933	1.0761	1.8146
.300	.3243	.7061	
.400	.3302	.5852	1.1407
.500	.2491	.4601	
.600	.2144	.4738	.7081
.700	.2087	.3364	
.800	.1851	.2921	.5313
.900	*****	.1805	

ALPHA ( 4 ) = 5.000 MACH ( 1 ) = 19.800 RN/L = .37900 PO = 4020.6 TO = 2969.6 HO = .51000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE Q-DOT

2Y/B .4000 .6000 .8000

X/C

.050	.5700		
.100	.4609	1.2781	
.200	.3344	.9215	1.6171
.300	.2164	.5974	
.400	.2047	.5262	1.1277
.500	.1847	.4548	
.600	.1583	.3657	.7801
.700	.1398	.3225	
.800	.1411	.3524	.5518
.900	*****	.1796	

ALPHA ( 5 ) = 10.000 MACH ( 1 ) = 19.800 RN/L = .36900 PO = 3967.9 TO = 2989.6 HO = .51000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE Q-DOT

2Y/B .4000 .6000 .8000

X/C

.050	.1956		
.100	.1433	1.3354	
.200	.1443	1.0220	1.6423
.300	.1525	.8143	
.400	.1750	.7336	1.1535
.500	.1932	.6301	
.600	.1504	.5545	.8707
.700	.1911	.5467	
.800	.1568	.4481	.6215

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (1H19)

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1H19 822C7F5M4V7H111 T8 ORBITER LOWER WING

(00ENG4)

ALPHA ( 5 ) = 10.000 MACH ( 1 ) = 19.800

SECTION ( 1 ) WING

DEPENDENT VARIABLE Q-DOT

2Y/B .4000 .6000 .8000

X/C

.900 ..... .2921



DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (1H19)

PAGE 205

1H19 822C7F5M4V7W111

ORBITER LOWER WING

(QCEW05) ( 07 NOV 74 )

## REFERENCE DATA

SREF = 2590.0000 SQ.FT. XMRP = .0000  
 LREF = 1290.3000 IN. YMRP = .0000  
 BREF = 1290.3000 IN. ZMRP = .0000  
 SCALE = .0060

## PARAMETRIC DATA

BETA = .000 RN/L = .500  
 BLTRIP = .000 MACH = 19.800

ALPHA ( 1 ) = -10.000 MACH ( 1 ) = 19.800 RN/L = .38000 PO = 4008.3 TO = 2959.6 HO = .51000-01

## SECTION ( 1 ) WING

## DEPENDENT VARIABLE Q-DOT

2Y/B .4000 .6000 .8000

## X/C

.050	.5186		
.100	.3425	1.5930	
.200	.2728	.8580	.9872
.300	.1708	.4835	
.400	.1566	.3575	.5860
.500	.1852	.1590	
.600	.1461	.2136	.3637
.700	.1077	.2201	
.800	.1267	.1611	.3177
.900	*****	.1095	

ALPHA ( 2 ) = -5.000 MACH ( 1 ) = 19.800 RN/L = .38000 PO = 4004.8 TO = 2959.6 HO = .51000-01

## SECTION ( 1 ) WING

## DEPENDENT VARIABLE Q-DOT

2Y/B .4000 .6000 .8000

## X/C

.050	.6206		
.100	.4670	1.7531	
.200	.3793	.9459	1.3255
.300	.2657	.6028	
.400	.2639	.5105	.8764
.500	.2020	.2850	
.600	.2262	.3278	.5409
.700	.1772	.3009	
.800	.1261	.2709	.3741
.900	*****	.1543	

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (1119)

PAGE 205

(1119 B22C7F5M4V74111 ORBITER LOWER WING

(QGEW05)

ALPHA ( 3 ) = .000 MACH ( 1 ) = 19.800 RN/L = .35800 PO = 3982.0 TO = 3039.6 HO = .50000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE Q-DOT

2Y/B .4000 .6000 .8000

X/C

.050	1.3511		
.100	1.1439	2.1364	
.200	.7041	1.3179	1.7288
.300	.5140	.8777	
.400	.4619	.7756	1.0310
.500	.4220	.2046	
.600	.2997	.5367	.7076
.700	.2981	.4707	
.800	.2905	.3824	.5401
.900	*****	.2590	

ALPHA ( 4 ) = 5.000 MACH ( 1 ) = 19.800 RN/L = .36400 PO = 3975.0 TO = 3009.6 HO = .51000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE Q-DOT

2Y/B .4000 .6000 .8000

X/C

.050	2.4140		
.100	1.9830	2.0508	
.200	1.2441	1.5356	2.0957
.300	.8556	1.0559	
.400	.7119	.9251	1.4144
.500	.6300	.3997	
.600	.5966	.6564	.9443
.700	.5554	.5904	
.800	.4723	.4603	.7199
.900	*****	.2634	

ALPHA ( 5 ) = 10.000 MACH ( 1 ) = 19.800 RN/L = .38100 PO = 4011.8 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE Q-DOT

2Y/B .4000 .6000 .8000

X/C

.050	4.2730		
.100	3.5551	2.8083	
.200	2.3098	2.2677	2.9256
.300	1.6704	1.7711	
.400	1.5518	1.5870	2.0172
.500	1.4603	.6693	
.600	1.2195	1.2084	1.4525
.700	1.1548	1.1175	
.800	1.0090	.7937	1.1044

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-2B (IH19)

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IH19 B22C7F5M4V7W111

ORBITER LOWER WING

(QQEW05)

ALPHA ( 5 ) = 10.000 MACH ( 1 ) = 19.800

SECTION ( 1 ) WING

DEPENDENT VARIABLE Q-DOT

2Y/B .4000 .6000 .8000

X/C

.900 \*\*\*\*\* .4841

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 822C7F5M4V7W111

ORBITER LOWER WING

(QQEW06) ( 07 NOV 74 )

## REFERENCE DATA

## PARAMETRIC DATA

SREF = 2690.0000 SQ.FT. XMRP = .0000  
 LREF = 1290.3000 IN. YMRP = .0000  
 BREF = 1290.3000 IN. ZMRP = .0000  
 SCALE = .0060

BETA = .000 RN/L = .500  
 BLTRIP = .000 MACH = 19.800

ALPHA ( 1 ) = -10.000 MACH ( 1 ) = 19.800 RN/L = .36500 PO = 4010.1 TO = 3019.6 HQ = .51000-01

## SECTION ( 1 ) WING

## DEPENDENT VARIABLE Q-DOT

2Y/B .4000 .6000 .8000

## X/C

.050	.3065		
.100	.2820	1.4145	
.200	.2115	.7537	.9322
.300	.2063	.4991	
.400	.1623	.3811	.5705
.500	.1293	.2015	
.600	.1182	.2558	.3642
.700	.1395	.2294	
.800	.1100	.1422	.3513
.900	.0855	.0401	

ALPHA ( 2 ) = -5.000 MACH ( 1 ) = 19.800 RN/L = .36400 PO = 3999.5 TO = 3019.6 HQ = .51000-01

## SECTION ( 1 ) WING

## DEPENDENT VARIABLE Q-DOT

2Y/B .4000 .6000 .8000

## X/C

.050	.5798		
.100	.4378	1.7670	
.200	.3585	.9788	1.3812
.300	.2419	.6288	
.400	.2171	.5367	.8903
.500	.1680	.3945	
.600	.1892	.3435	.5642
.700	.2115	.3159	
.800	.1490	.2272	.4036
.900	*****	.0845	

IH19 B22C7F5M4V7W111 ORBITER LOWER WING

(QQEH06)

ALPHA ( 3 ) = .000 MACH ( 1 ) = 19.800 RN/L = .35600 PO = 3966.2 TO = 3039.6 HO = .50000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE Q-DOT

2Y/B .4000 .6000 .8000

X/C

.050	1.1283		
.100	.9814	1.9593	
.200	.6941	1.2159	1.6616
.300	.4700	.8549	
.400	.4035	.6955	.9965
.500	.3575	.6362	
.600	.3055	.5521	.6780
.700	.2607	.4177	
.800	.2368	.3699	.4918
.900	*****	.2069	

ALPHA ( 4 ) = 5.000 MACH ( 1 ) = 19.800 RN/L = .39500 PO = 4018.8 TO = 2909.6 HO = .52300-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE Q-DOT

2Y/B .4000 .6000 .8000

X/C

.050	2.2744		
.100	1.8741	2.0158	
.200	1.2641	1.4782	2.0617
.300	.8861	1.0889	
.400	.7109	.8992	1.4317
.500	.6582	.6886	
.600	.5866	.6785	.9826
.700	.5682	.5843	
.800	.5162	.4720	.7193
.900	*****	.3032	

ALPHA ( 5 ) = 10.000 MACH ( 1 ) = 19.800 RN/L = .38000 PO = 4006.5 TO = 2959.6 HO = .51000-01

SECTION ( 1 ) WING

DEPENDENT VARIABLE Q-DOT

2Y/B .4000 .6000 .8000

X/C

.050	3.8505		
.100	3.2856	2.7217	
.200	2.2713	2.2078	2.8347
.300	1.6693	1.7035	
.400	1.4737	1.5082	1.9034
.500	1.3875	1.1364	
.600	1.1935	1.1294	1.4200
.700	1.1113	1.0483	
.800	.9734	.8246	1.1145

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (1H:9)

PAGE 209

1H19 822C7F5M4V7W111

ORBITER LOWER WING

(QQEW06)

ALPHA ( 5 ) = 10.000 MACH ( 1 ) = 19.800

SECTION ( 1 ) WING

DEPENDENT VARIABLE Q-DOT

2Y/B .4000 .6000 .8000

X/C

.900 ..... .4951

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (1H19)

PAGE 210

1H19 B22C7F5M4V7W111 TB EXTERNAL TANK

(QQETD1) ( 07 NOV 74 )

### REFERENCE DATA

```
SREF = 2690.0000 SQ.FT.  XMRP = .0000
LREF = 1290.3000 IN.      YMRP = .0000
BREF = 1290.3000 IN.      ZMRP = .0000
SCALE = .0060
```

### PARAMETRIC DATA

BETA	=	.000	RN/L	=	.500
BLTRIP	=	.030	DELTAH	=	.175
MACH	=	19.800			

ALPHA ( 1 ) = -10.000    MACH ( 1 ) = 19.800    RN/L   = .38200    PO   = 4029.4    TO   = 2959.6    HO   = .51000-01

SECTION ( 1 ) TANK

## DEPENDENT VARIABLE Q-DOT

PHI .0009 45.0000 67.5000 90.0000112.5000135.0000157.5000180.0000

[illegible]

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

PAGE 211

IH19 B22C7F5M4V7W111 TB EXTERNAL TANK

(QQET01)

ALPHA ( 2 ) = -5.000 MACH ( 1 ) = 19.800 RN/L = .39100 PO = 4031.1 TO = 2929.6 HO = .51000-01

SECTION ( 1 ) TANK

DEPENDENT VARIABLE Q-DOT

PHI .0000 45.0000 67.5000 90.0000 112.5000 135.0000 157.5000 180.0000

X/L							
.000	18.4728						
.005	18.4728						
.010	13.8855						
.020	11.7747						
.040	7.8073						
.060	6.5570						
.080	4.8680						
.100	2.6974						
.125	.0216						
.150	1.3354						
.175	1.0947						
.200	.8190						
.250	.4765						
.300	.2953	.0527	.3650	.3315			
.325				.3496	.4091		
.350				.3313	1.8503		
.375				.2895	1.2162	3.1257	
.400	.2036	.2101	.2392	.2725	.2914	2.2533	
.425				.5580	1.8570	1.5118	
.450				.4765			
.475				.8833	1.4389	1.0668	
.500		.1575	.1970	.3617	1.0020		
.525				.8799	.9975	.9187	
.550				.7769			
.575				.8456	.6882	.6998	
.600	.0895	.1783	.2546	.4194	.6089		
.625		.2016		.6201	.0179	.5171	
.650				.4281			
.675				.4703	.3979	.3396	
.700		.2031	.2739	.4051	.4063	.2783	
.750		.1588			.3166	.1628	
.800	.0652	.1503	.1642	.2147	.3418	.0747	
.850			.1502	.1946	.2315	.0706	
.900						.0512	
.935						.0341	
.974						.0251	



DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (11/19)

PAGE 212

1H19 B22C7F5M4V7W111 TB EXTERNAL TANK

(QDET01)

ALPHA ( 3 ) = .000    HACH ( 1 ) = 19.800    RN/L = .39100    PO = 3978.5    TO = 2909.6    HO = .51000-01

SECTION ( I ) TANK

DEPENDENT VARIABLE Q-DOT

PHI .0000 45.0000 67.5000 90.0000 112.5000 135.0000 157.5000 180.0000

X/L

.000				18.3166				18.3166
.005								12.2521
.010								9.8263
.020								6.3422
.040								5.3556
.060								4.0053
.080								*****
.100								2.2158
.125								.0176
.150								.9739
.175								.7799
.200				.5929				.5765
.250								*****
.300			.3045	.0133	.3046			.3123
.325							.2658	
.350							.2347	.2783
.375							.1959	1.3409
.400	.2746	.2497	.2387	.2641	.2228		.1660	.7868 2.1001
.425								1.4868
.450							.3135	1.2494 .9072
.475								*****
.500			.1897	.1581	.1965		.5788	.9555 .6908
.525								.6108
.550							.6336	.6427 .4782
.575								.3770
.600	.2193		.1411	.1279	.3045		.5626	.3541 .3295
.625								.2173
.650			.0952				.3566	.0177 .1347
.675								.1115
.700			.0876	.1359	.2939		.2876	.1228 .0629
.750			.1413				.1942	.0289 .0361
.800	.1515	.1178	.1730	.1377	.1835		.1175	.0226*****
.850							.0826	.0244*****
.900			.1870	.0864	.1231		.0244*****	.0043
.935								.0005
.974								.0186

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (1H19)

PAGE 213

1H19 B22C7F5H4V7W1111 TB EXTERNAL TANK

(00ETD1)

ALPHA ( 4 ) = 5.000 MACH ( 1 ) = 19.800 RN/L = .39500 PO = 4017.1 TO = 2909.6 HO = .52000-01

SECTION ( 1 ) TANK

DEPENDENT VARIABLE Q-DOT

PHI	.0000	45.0000	67.5000	90.0000	112.5000	135.0000	157.5000	180.0000
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X/L

[illegible]

REPRODUCIBILITY OF THE  
ORIGINAL PAGE IS POOR

PAGE 214

(QDET02) ( 07 NOV 74 )

### PARAMETRIC DATA

BETA	=	.000	RN/L	=	.500
BLTRIP	=	.000	DELTAH	=	.175
NACH	=	19.800			

ALPHA ( 1 ) = -10.000    MACH ( 1 ) = 19.800    RN/L = .36500    PO = 3999.5    TO = 2939.6    HO = .51000-01

## DEPENDENT VARIABLE Q-DOT

PH1	.0000	45.0000	67.5000	90.0000	112.5000	135.0000	157.5000	180.0000
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[illegible]

TABULATED SOURCE DATA - LACR N2-28 (1H19)

(00ET02)

1H19 B22C7F5H4V7H111 TB EXTERNAL TANK

ALPHA ( 2 ) = -5.000    MACH ( 1 ) = 19.800    RN/L = .39000    PO = 3994.3    TO = 2919.6    HO = .51000-01

SECTION ( 1 ) TANK

DEPENDENT VARIABLE Q-DOT

PHI	.0000	45.0000	67.5000	90.0000	112.5000	135.0000	157.5000	180.0000
-----	-------	---------	---------	---------	----------	----------	----------	----------

X/L

[illegible]

1H19 822C7F5M4V7H111 TB EXTERNAL TANK

(00ET02)

ALPHA ( 3 ) = .000 HACH ( 1 ) = 19.800 RN/L = .39300 PO = 3996.0 TO = 2909.6 NO = .51000-01

## SECTION 1: TANK

DEPENDENT VARIABLE Q-DOT

PHI .0000 45.0000 67.5000 90.0000 112.5000 135.0000 157.5000 180.0000

[illegible]

TABULATED SOURCE DATA - LACR N2-23 (1H19)

2919.6      HQ      \*      .51000-01

1H19 B22C7F5M4V7H111 TB EXTERNAL TANK

DEPENDENT VARIABLE Q-DOT

PH1 .0000 45.0000 67.5000 90.0000 112.5000 135.0000 157.5000 180.0000

[illegible]

!H!9 822C7F5M4V7H111 TB EXTERNAL TANK

(00ET02)

ALPHA ( 5 ) = 10.000 HACH ( 1 ) = 19 800 RN/L = .36700 PO = 3999.5 TO = 3009.6 HO = .51000-01

## SECTION 1 LITANK

DEPENDENT VARIABLE Q-DOT

PHI .0000 45.0000 67.5000 90.0000 112.5000 135.0000 157.5000 180.0000

**X/L**

.000				17.9993				17.9993
.005								10.7055
.010								7.2818
.020								4.3818
.040								3.6185
.060								2.6281
.080								.....
.100								1.1801
.125								.....
.150								.4748
.175								.3911
.200				.6303				.3012
.250								.....
.300			.5046	.0010	.3105			.2278
.325						.1832		
.350						.0684		.1473
.375						.....		.5891
.400	.8365	.7142	.4689	.3343	.2092	.1563	.2770	.5549
.425								.3510
.450						.1212	.3309	.2176
.475								.0751
.500			.4339	.2969	.1894	.2108	.2086	.1361
.525								.0653
.550						.1660	.1207	.0447
.575								.0100
.600	.7659		.4305	.3241	.1789	.1081	.0134	.0028
.625								.....
.650			.3855			.0530	.0380	.0065
.675								.0233
.700			.3741	.2508	.1189	.0394	.0024	.....
.750			.3829			.0677	.0240	.0053
.800	.6858	.5186	.3783	.2548	.0803	.0403	.0297	.....
.850						.0513	.0104	.....
.900			.3463	.1833	.0930	.0261	.0180	.0112
.935								.0043
.974								.0201

DATE 03 NOV 75

## TABULATED SOURCE DATA - LACR N2-28 (IH19)

PAGE 219

IH19 T8

EXTERNAL TANK

(QDET07) ( 07 NOV 74 )

## REFERENCE DATA

SREF = 2590.0000 SQ.FT. XMRP = .0000  
 LREF = 1290.3000 IN. YMRP = .0000  
 BREF = 1290.3000 IN. ZMRP = .0000  
 SCALE = .0060

## PARAMETRIC DATA

BETA = .000 RN/L = .500  
 BLTRIP = .000 MACH = 19.800

ALPHA ( 1 ) = -10.000 MACH ( 1 ) = 19.800 RN/L = .38900 PO = 3990.0 TO = 2919.6 HO = .51000-01

SECTION ( 1 ) TANK DEPENDENT VARIABLE Q-DOT

PHI .0000 45.0000 67.5000 90.0000 112.5000 135.0000 157.5000 180.0000

X/L	PHI	Q-DOT	Q-DOT	Q-DOT	Q-DOT	Q-DOT	Q-DOT	Q-DOT
.000		15.2219						15.2219
.005								.9503
.010								11.5861
.020								8.0082
.040								6.8046
.060								5.2851
.080								4.1836
.100								3.2417
.125								2.1867
.150								1.8161
.175								1.4581
.200		.5623						1.1060
.250								.....
.300		.2943	.....					.....
.325								.....
.350					.5258			.6451
.375					.2037			.6333
.400	.0895	.1406	.0918	.2479	.4430	.5250	.5808	.6475
.425								.6258
.450						.4978	.6096	.0344
.475								.....
.500			.2007	.1961	.....	.2589	.5584	.....
.525								.5995
.550						.3941	.3229	.1222
.575								.5063
.600	.0538		.1586	.....	.3812	.4032	.4552	.4053
.625								.4772
.650			.1425			.5034	.....	.4990
.675								.....
.700			.1445	.2330	.3360	.4836	.....	.6098
.750			.1352			.4530	.6635	.6507
.800	.0670	.0866	.1424	.1873	.3853	.4796	.5093	.7452
.850						.5013	.6960	.7395
.900			.1415	.2281	.3658	.4598	.6723	.7103
.935								.5204
.974								.0929

REPRODUCIBILITY OF THE  
ORIGINAL FILE IS POOR



DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-2B (IHIS)

PAGE 220

1419 TB

## EXTERNAL TANK

(00ET07)

ALPHA ( 2 ) = -5.000    MACH ( 1 ) = 19.800    RN/L = .37900    PO = 3997.8    TO = 2959.5    HO = .51000-01

SECTION ( 1 ) TANK

DEPENDENT VARIABLE Q-DOT

PHI .0000 45.0000 67.5000 90.0000 112.5000 135.0000 157.5000 180.0000

X/L

[illegible]



DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

IH19 T8

EXTERNAL TANK

(QOET07)

ALPHA ( 4 ) = 5.000 MACH ( 1 ) = 19.800 RN/L = .39400 PO = 4010.1 YO = 2909.6 HQ = .51000-01

SECTION ( 1 ) TANK DEPENDENT VARIABLE Q-DOT

PHI .0000 45.0000 67.5000 90.0000 112.5000 135.0000 157.5000 180.0000

X/L	16.3684	16.5684
.000		7.5394
.005		8.1759
.010		5.0211
.020		4.2236
.040		3.1028
.060		2.3313
.080		1.6908
.100		.9911
.125		.7328
.150		.5626
.175		.3996
.200	.5358	*****
.250		*****
.300	.3751	.1335*****
.325		.1978
.350		*****
.375		.1975
.400	.3879	.3180
.425		.2840
.450		.2378
.475		.1729
.500		.2067
.525		.1288
.550		.1625
.575		.1697
.600	.1839	.0122
.625		.2030*****
.650		*****
.675		.2213
.700		.1653*****
.725		.1317
.750		.0159
.775		.1076
.800		.0883
.825		.0949
.850		.1093
.875		*****
.900		.0998
.925		.1213
.950		.0737
.974		.0877
	.2760	.2766
		.2884
		.1921
		.1570
		.1318
		.0994
		.0539
		.0986
		.0674
		.0866
		.0667

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

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		IH19 T8		EXTERNAL TANK		(GOET07)	
ALPHA ( 5 ) =	10.000	MACH ( 1 ) =	19.800	RN/L =	.37900	PO =	3994.3
						TO =	2959.6
						HO =	.51000-01

SECTION ( 1 ) TANK DEPENDENT VARIABLE Q-DOT

PHI .0000 45.0000 67.5000 90.0000 112.5000 135.0000 157.5000 180.0000

[illegible]

DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (1H19)

PAGE 224

1419 TB

## EXTERNAL TANK

(OOETDB) ( 07 NOV 74 )

## REFERENCE DATA

SREF	=	2690.0000	SQ.FT.	XMRP	=	.0000
LREF	=	1290.3000	IN.	YMRP	=	.0000
BREF	=	1290.3000	IN.	ZMRP	=	.0000
SCALE	=	.0060				

### PARAMETRIC DATA

BETA	=	.000	RN/L	=	.500
BLTRIP	=	.030	MACH	=	19.800

ALPHA ( 1 ) = -10.000    MACH ( 1 ) = 19.800    FN/L = .37100    PO = 4050.4    TO = 3009.6    HO = .51000-01

## SECTION ( 1 ) TANK

## DEPENDENT VARIABLE Q-DOT

	PRI	.0000	45.0000	67.5000	90.0000	112.5000	135.0000	157.5000	180.0000
PHI		.0000	45.0000	67.5000	90.0000	112.5000	135.0000	157.5000	180.0000

X/L

[illegible]



DATE 03 NOV 75

TABULATED SOURCE DATA - LACR N2-28 (IH19)

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IH19 TO

EXTERNAL TANK

(QDET00)

ALPHA ( 31 ) = .000 MACH ( 1 ) = 19.800 RV/L = .40000 PO = 4084.5 TO = 2909.6 HO = .52000-01

SECTION / 111A/K

DEPENDENT VARIABLE Q-DOT

PHI .0000 45.0000 67.5000 90.0000 112.5000 135.0000 157.5000 180.0000

X/L									
.000									14.8552
.005									14.8552
.010									.6078
.020									8.6741
.040									5.6633
.060									4.7327
.080									3.6008
.100									2.7875
.125									2.0275
.150									.9371
.175									.8686
.200									.6836
.250				.5029					.5483
.300				.3156	.....	-.0421			.....
.325							.2871		-.3846
.350							.....		
.375							.2372		.1943
.400	.1195	.2743	.2674	.3425	.2973	.1935	.2247	.2238	.2628
.425								.2116	
.450							.2999	.2149	.0293
.475								.....	
.500				.0225	.1015	-.2978	.2114	.1875	-.1523
.525									.1784
.550							.2088	.1419	.0334
.575									.1789
.600	.1852		.1771	.....	.1711	.1269	.1882	.1681	
.625								.1943	
.650			.1545			.1262	.....	.1809	
.675							.....		
.700			.2204	.1548	.1181	.1225	.....	.1682	
.750			.1394			.1136	.1668	.1552	
.800	.1165	.1333	.1452	.1766	.1658	.1069	.0903	.1461	
.850						.1181	.1205	.1784	
.900			.1797	.1099	.1237	.1100	.1443	.1279	
.935								.1328	
.974								.0655	

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(QDETOS)

DEPENDENT VARIABLE Q-DOT

PHI .0000 45.0000 67.5000 90.0000 112.5000 135.0000 157.5000 180.0000



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(QDET08)

DEPENDENT VARIABLE Q-DOT

X/L

[illegible]